INITIAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL

REGARDING PROPOSED CHANGES TO
CALIFORNIA BUILDING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2
2019 TRIENNIAL RULEMAKING CYCLE

(The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific. (PART 1 – ADMINISTRATIVE CODE)

LEGEND FOR EXPRESS TERMS
1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears *underlined and in italics*.
3. Repealed text: All such language appears in ~~strikeout~~.

****PART 1****

INITIAL EXPRESS TERMS

[The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.1 Through 1.1.12 and Sections 1.11 through 1.11.10 with modification.]

[The SFM proposes to only adopt Sections 105.2.1, 105.3 – 105.3.1, 105.4, 105.6 – 105.7, 106.1– 106.3, 107.1 – 107.3, 107.4, 108.1 – 108.3, 110.1 – 110.3, 110.3.4 – 110.3.7, 110.3.9 – 110.3.11, 110.4 – 110.6, 111.1– 111.4, 112, 114.1 – 114.2, 115 and 116 contained in the 2018 IBC Chapter 1.]

[See Part 2 for existing SFM amendments and California regulations that are brought forward without modification.]

Item 1. California amendments updates and errata by chapter

[Chapter 1]

SCOPE AND ADMINISTRATION

DIVISION I
CALIFORNIA ADMINISTRATION

SECTION 1.1
GENERAL

1.1.1 Title. *These regulations shall be known as the California Building Code, may be cited as such and will be referred to herein as "this code." The California Building Code is Part 2 of twelve parts of the official compilation and publication*

of the adoption, amendment, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the ~~2015~~ 2018 International Building Code of the International Code Council with necessary California amendments.

…

1.11.1 SFM—Office of The State Fire Marshal. *Specific scope of application of the agency responsible for enforcement, the enforcement agency and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.*

Application:

Institutional, educational or any similar occupancy. *Any building or structure used or intended for use as an asylum, jail, prison, mental hospital, hospital, sanitarium, home for the ~~aged~~ elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity.*

…

1.11.6 Certificate of Occupancy. *A Certificate of Occupancy shall be issued as specified in Section 111.*

Exception: *Group R-3, ~~Division 3~~ and Group U occupancies.*

…

DIVISION II
SCOPE AND ADMINISTRATION

[IBC Chapter 1 Administrative provisions - Sections 101 through 116 relocated to Division II of Chapter 1.]

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204

[Chapter 2]

[The SFM proposes to adopt Chapter 2 with the following amendments and California regulations]

[See Part 2 for existing SFM amendments and California regulations that are brought forward without modification.]

DEFINITIONS

…

CARE AND SUPERVISION. *Any one or more of the following activities provided by a person or facility to meet the needs of the clients:*

1. *Assistance in dressing, grooming, bathing and other personal hygiene.*
2. *Assistance with taking medication.*
3. *Central storing and/or distribution of medications.*
4. *Arrangement of and assistance with medical and dental care.*
5. *Maintenance of house rules for the protection of clients.*

6. Supervision of client schedules and activities.

7. Maintenance and/or supervision of client cash resources or property.

8. Monitoring food intake or special diets.

9. Providing basic services required by applicable law and regulation to be provided by the licensee in order to obtain and maintain a community-care facility license.

…

CLIMATE ZONE. A geographical region that has been assigned climatic criteria as specified in ~~Chapters 3CE and~~ 3RE *Subchapter 1* of the *California Energy Code*.

…

COMMON USE [DSA-AC] *Interior or exterior circulation paths…*

…

COMMUNITY CARE FACILITY. *Any facility, place, or building that is maintained and operated to provide nonmedical residential care, day treatment, adult day care, or ~~foster family~~ agency services for children, adults, or children and adults, including, but not limited to, the physically handicapped, mentally impaired, incompetent persons, and abused or neglected children, and includes but is not limited to the following as defined in Health and Safety Code Section 1502:*

1. Residential facility

2. Adult day program

3. Therapeutic day services facility

~~Foster family agency~~

~~Foster family home~~

~~Small family home~~

4. Social rehabilitation facility

5. Community treatment facility

6. Full-service adoption agency

~~Noncustodial adoption agency~~

7. Transitional shelter care facility

8. Transitional housing placement facility

…

CONGREGATE LIVING HEALTH FACILITY (CLHF). *As defined in Health and Safety Code Section 1250. ~~means~~*

(1) A residential home with a capacity, except as provided in paragraph ~~(3)~~ (4), of no more than ~~12~~ 18 beds, that provides inpatient care, including the following basic services: medical supervision, 24-hour skilled nursing and supportive care, pharmacy, dietary, social, recreational, and at least one type of service

specified in paragraph ~~(1)~~ (2). The primary need of congregate living health facility residents shall be for availability of skilled nursing care on a recurring, intermittent, extended, or continuous basis. This care is generally less intense than that provided in general acute care hospitals but more intense than that provided in skilled nursing facilities.

~~(1)~~ (2) Congregate living health facilities shall provide one of the following services:

(A) Services for persons who are mentally alert, persons with physical disabilities, who may be ventilator dependent.

(B) Services for persons who have a diagnosis of terminal illness, a diagnosis of a life-threatening illness, or both. Terminal illness means the individual has a life expectancy of six months or less as stated in writing by his or her attending physician and surgeon. A "life-threatening illness" means the individual has an illness that can lead to a possibility of a termination of life within five years or less as stated in writing by his or her attending physician and surgeon.

(C) Services for persons who are catastrophically and severely disabled. A person who is catastrophically and severely disabled means a person whose origin of disability was acquired through trauma or nondegenerative neurologic illness, for whom it has been determined that active rehabilitation would be beneficial and to whom these services are being provided. Services offered by a congregate living health facility to a person who is catastrophically disabled shall include, but not be limited to, speech, physical, and occupational therapy.

~~(2)~~ (3) A congregate living health facility license shall specify which of the types of persons described in paragraph ~~(1)~~ (2) to whom a facility is licensed to provide services.

~~(3)~~ (4) (A) A facility operated by a city and county for the purposes of delivering services under this section may have a capacity of 59 beds.

(B) A congregate living health facility not operated by a city and county servicing persons who are terminally ill, persons who have been diagnosed with a life-threatening illness, or both, that is located in a county with a population of 500,000 or more persons, or located in a county of the 16th class pursuant to Section 28020 of the Government Code, may have not more than 25 beds for the purpose of serving persons who are terminally ill.

(C) A congregate living health facility not operated by a city and county serving persons who are catastrophically and severely disabled, as defined in subparagraph (C) of paragraph (1) that is located in a county of 500,000 or more persons may have not more than 12 beds for the purpose of serving persons who are catastrophically and severely disabled.

(5) A congregate living health facility shall have a non-institutional, homelike environment.

...

~~[BC] CONGREGATE LIVING FACILITIES.~~ ~~A building or part thereof that contains *sleeping units* where residents share bathroom or kitchen facilities, or both.~~

...

FIREWORKS. Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration or detonation that meets the definition of 1.4G fireworks or 1.3G fireworks.

Fireworks, 1.3G. Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, *deflagration* or *detonation*. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of pyrotechnic composition, and other

display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G fireworks are also described as fireworks, UN0335 by the DOTn.

Fireworks, 1.4G. Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion or deflagration that complies with the construction, chemical composition and labeling regulations of the DOTn for fireworks, UN0336, and the U.S. Consumer Product Safety Commission (CPSC) as set forth in CPSC 16 CFR: Parts 1500 and 1507.

Note: *Fireworks shall have the same meaning as defined in Health and Safety Code Section 12511 and 12512 which has been reprinted as follows:*

…

~~**FOSTER CARE FACILITIES.** *See Foster family home.*~~

~~***FOSTER FAMILY HOME.*** *Foster family home means any residential facility providing 24-hour care for six or fewer foster children that is owned, leased, or rented and is the residence of the foster parent or parents, including their family, in whose care the foster children have been placed. The placement may be by a public or private child placement agency or by a court order, or by voluntary placement by a parent, parents, or guardian. It also means a foster family home described in Section 1505.2.*~~

…

~~***HEAVY TIMBER [SFM]*** *(See Chapter 7A, Section 702A for defined term)*~~

…

HIGH-RISE BUILDING. ~~*In other than Group I-2 occupancies "high-rise buildings"*~~ *As used in this code:*

EXISTING HIGH-RISE STRUCTURE*. A high-rise structure, the construction of which is commenced or completed prior to July 1, 1974.*

HIGH-RISE STRUCTURE. *Every building, the construction of which is commenced on or after July 1, 1974, of any type of construction or occupancy having floors used for human occupancy located more than 75 feet above the lowest floor level having building access (see Section 403~~.1.2~~), except buildings used as hospitals as defined in Health and Safety Code Section 1250.*

~~***NEW HIGH-RISE BUILDING.*** *A high-rise structure, the construction of which is commenced on or after July 1, 1974. For the purpose of this section, construction shall be deemed to have commenced when plans and specifications are more than 50 percent complete and have been presented to the local jurisdiction prior to July 1, 1974. Unless all provisions of this section have been met, the construction of such buildings shall commence on or before January 1, 1976.*~~

~~***NEW HIGH-RISE STRUCTURE.*** *A high-rise structure, the construction of which is commenced on or after July 1, 1974.*~~

…

~~**[F] LABORATORY SUITE.** A fire-rated, enclosed laboratory area providing one or more laboratory spaces within a Group B educational occupancy that includes ancillary uses such as offices, bathrooms and corridors that are contiguous with the laboratory area, and are constructed in accordance with Section 428.~~

…

MOTION PICTURE AND TELEVISION PRODUCTION STUDIO SOUND STAGES, APPROVED PRODUCTION FACILITIES AND PRODUCTION LOCATIONS. *See Chapter ~~46~~ 48, California Fire Code.*

…

ORGANIZED CAMPS. *See Section 450, Group C Occupancy.*

…

RESIDENTIAL CARE FACILITY FOR THE ELDERLY (RCFE). *As defined in Health and Safety Code Section 1569.2, shall mean a facility with a housing arrangement chosen voluntarily by persons 60 years of age or over, or their authorized representative, where varying levels and intensities of care and supervision, protective supervision or personal care are provided, based on their varying needs, as determined in order to be admitted and to remain in the facility. Persons under 60 years of age with compatible needs, as determined by the Department of Social Services in regulations, may be allowed to be admitted or retained in a residential-care facility for the elderly.*

Pursuant to Health and Safety Code Section 13133, regulations of The State Fire Marshal pertaining to Group R-2.1, ~~Division 2~~ Occupancies classified as residential facilities (RF) and residential care facilities for the elderly (RCFE) shall apply uniformly throughout the state and no city, county, city and county, including a charter city or charter county, or fire protection district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety which is in consistent with these regulations. A city, county, city and county, including a charter city or charter county may pursuant to Health and Safety Code Section 13143.5, or a fire protection district may pursuant to Health and Safety Code Section 13869.7, adopt standards more stringent than those adopted by The State Fire Marshal that are reasonably necessary to accommodate local climate, geological, or topographical conditions relating to roof coverings for residential-care facilities for the elderly.

…

SMALL MANAGEMENT YARD. *An exterior exercise yard within a Group I-3 prison used for inmate exercise for a maximum of 2 hours per day, constructed in accordance with Section ~~408.1.2.3.~~ 408.15.*

…

WILDLAND URBAN INTERFACE AREA (WUI). [SFM] *(See Chapter 7A, Section 702A for defined term)*

[Chapter 3]

[The SFM proposes to adopt Chapter 3 with the following amendments and California regulations.]
[See Part 2 for existing SFM amendments and California regulations that are brought forward without modification.]

Occupancy Classification and Use

…

302.1 Occupancy classification. Occupancy classification is the formal designation of the primary purpose of the building, structure or portion thereof. Structures shall be classified into one or more of the occupancy groups listed in this section based on the nature of the hazards and risks to building occupants generally associated with the intended purpose of the building or structure. An area, room or space that is intended to be occupied at different times for different purposes shall comply with all applicable requirements associated with such potential multipurpose. Structures containing multiple occupancy groups shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically listed in this section, such structure shall be classified in the occupancy it most nearly resembles based on the fire safety and relative hazard. Occupied roofs shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard, and shall comply with Section 503.1.4.

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.

2. Business (see Section 304): Group B.

3. [SFM] Organized Camps (see Section 450): Group C.

~~3~~ *4.* Educational (see Section 305): Group E.

4 *5.* Factory and Industrial (see Section 306): Groups F-1 and F-2.

~~5~~ *6.* High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5.

~~6~~.*7.* Institutional (see Section 308): Groups ~~I-1~~, I-2, I-3 and I-4.

8. Laboratory (see Section 202): Group B, unless classified as Group L (see Section 453) or Group H (see Section 307).

9. [SFM] ~~*Research Laboratories*~~ *Laboratory Suites (see Section 453): Group L.*

~~9~~.*10.* Mercantile (see Section 309): Group M.

~~10~~.*11.* Residential (see Section 310): Groups R-1, R-2, *R-2.1,* R-3, *R-3.1* and R-4.

~~9.~~ *12.* Storage (see Section 311): Groups S-1 and S-2.

~~10.~~*13.* Utility and Miscellaneous (see Section 312): Group U.

14. [SFM] Existing buildings housing existing protective social care homes or facilities established prior to 1972 see California Fire Code Chapter 11 and California Existing Building Code.

…

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers

Ambulatory care facilities *serving five or fewer patients (see Section* ~~*308.4.2*~~ *308.3.3, I-2.1 for facilities serving more than five patients)*

…

307.1.1 Uses other than Group H. An occupancy that stores, uses or handles hazardous materials as described in one or more of the following items shall not be classified as Group H, but shall be classified as the occupancy that it most nearly resembles.

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the ~~*International*~~ *California Fire Code*.
2. …

~~17. Group B higher education laboratory occupancies complying with Section 428 and Chapter 38 of the *International Fire Code*.~~

~~*15*~~ *17. [SFM] Group L occupancies defined in Section 453.*~~*1*~~

…

308.1 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care or supervision is provided to persons who are or are not capable of self-preservation without physical assistance or in which persons are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group ~~I-1~~, I-2, *I-2.1,* I -3 or I-4. *Restraint shall not be permitted in any building except in Group I-2 occupancies constructed for such use in accordance with Section 407.1.1 and Group I-3 occupancies constructed for such use, in accordance with Section 408.1.2.*

Where occupancies house both ambulatory and non-ambulatory persons, the more restrictive requirements shall apply.

…

308.3 Institutional Group I-2. Institutional Group I-2 occupancy shall include buildings and structures used for medical care on a 24-hour basis for more than five persons who are incapable of self-preservation *or classified as non-ambulatory or bedridden*. This group shall include, but not be limited to, the following:

~~Foster care facilities~~
Detoxification facilities
Hospitals
Nursing homes
Psychiatric hospitals

~~**308.3.1 Occupancy conditions.** Buildings of Group I-2 shall be classified as one of the occupancy conditions specified in Section 308.3.1.1 or 308.3.1.2.~~

~~**308.3.1.1 Condition 1.** This occupancy condition shall include facilities that provide nursing and medical care but do not provide emergency care, surgery, obstetrics or in-patient stabilization units for psychiatric or detoxification, including but not limited to nursing homes and foster care facilities.~~

~~**308.3.1.2 Condition 2.** This occupancy condition shall include facilities that provide nursing and medical care and could provide emergency care, surgery, obstetrics or in-patient stabilization units for psychiatric or detoxification, including but not limited to hospitals.~~

308.3.2~~2~~*1* Five or fewer persons receiving medical care. A facility with five or fewer persons receiving medical care shall be classified as Group R-3*.1* or shall comply with the ~~*International*~~ *California Residential Code* provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section ~~P2904~~ *R313* of the ~~*International*~~ *California Residential Code*.

~~308.4.2~~ 308.3.3 Institutional Group I-2.1 Ambulatory Health Care Facility. *A healthcare facility that receives persons for outpatient medical care that may render the patient incapable of unassisted self-preservation and where each tenant space accommodates more than five such patients.*

…

308.4.6 Condition 6. *This occupancy condition shall include buildings containing only one temporary holding facility with five or less persons under restraint or security where the building is protected throughout with a monitored automatic sprinkler system installed in accordance with Section 903.3.1.1 and where the temporary holding facility is protected throughout with an automatic fire alarm system with notification appliances. A Condition 6 building shall be ~~is~~ permitted to be classified as a Group B occupancy.*

…

308.5.2 Within a place of religious worship. Rooms and spaces within places of religious worship providing such care during religious functions shall be classified as part of the primary occupancy.

308.5.3 Five or fewer persons receiving care. A facility having five or fewer persons receiving custodial care shall be classified as part of the primary occupancy.

308.5.4 Five or fewer persons receiving care in a dwelling unit. A facility such as the above within a dwelling unit and having five or fewer persons receiving custodial care shall be classified as a Group R-3*.1* occupancy or shall comply with the ~~*International*~~ *California Residential Code.*

…

310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, *R-2.1, R-3.1,* R-4 or I, including:

Buildings that do not contain more than two dwelling units.

~~Care Facilities that provide accommodations for five or fewer persons receiving care~~

Boarding houses (non-transient) with 16 or fewer occupants

Boarding houses (transient) with 10 or fewer occupants

~~Congregate living facilities~~ *Congregate residences* (non-transient) with 16 or fewer occupants.

~~Congregate living facilities~~ *Congregate residences* (transient) with 10 or fewer occupants.

Lodging houses with five or fewer guest rooms

Adult care facilities that provide accommodations for six or fewer clients of any age for less than 24 hours.

Licensing categories that may use this classification include Adult Day Programs.

Alcoholism or drug abuse recovery homes (ambulatory only)

Child care facilities that provide accommodations for six or fewer clients of any age for less than 24 hours. Licensing categories that may use this classification include, but are not limited to:

Day-Care Center for Mildly Ill Children,
Infant Care Center,
School Age Child Day-Care Center.

Family Day-Care Homes that provide accommodations for 14 or fewer children, in the provider's own home for less than 24-hours.

~~*Foster family homes (ambulatory only)*~~

Adult care and child care facilities that are within a single-family home are permitted to comply with the California Residential Code.

~~310.4.1 Care facilities within a dwelling.~~ ~~Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the International Residential Code provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code.~~

310.4.1 Residential Group R-3.1 *This occupancy group may include facilities licensed by a governmental agency for a residentially based 24-hour care facility providing accommodations for six or fewer clients of any age. Clients may be classified as ambulatory, non-ambulatory or bedridden. A Group R-3.1 occupancy shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in Section 435 Special Provisions for Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1 or R-4 Occupancy. This group may include:*

Adult residential facilities

Congregate living health facilities

~~*Foster family homes*~~

~~*Group homes*~~

Intermediate care facilities for the developmentally disabled habilitative

Intermediate care facilities for the developmentally disabled nursing

Nurseries for the full-time care of children under the age of six, but not including "infants" as defined in ~~Section 310~~ Chapter 2

Residential care facilities for the elderly (RCFEs)

Small family homes and residential care facilities for the chronically ill

Exception: *Group Homes licensed by the Department of Social Services which provide nonmedical board, room and care for six or fewer ambulatory children or children two years of age or younger, and which do not have any non-ambulatory clients shall not be subject to regulations found in Section 435.*

Pursuant to Health and Safety Code Section 13143 with respect to these exempted facilities, no city, county or public district shall adopt or enforce any requirement for the prevention of fire or for the protection of life and property against fire and panic unless the requirement would be applicable to a structure regardless of the special occupancy. Nothing shall restrict the application of state or local housing standards to such facilities if the standards are applicable to residential occupancies and are not based on the use of the structure as a facility for ambulatory children. For the purpose of this exception, ambulatory children do~~es~~ not include relatives of the licensee or the licensee's spouse.

…

310.5 Residential Group R-4. Residential Group R-4 occupancy shall include buildings, structures or portions thereof for more than *six ambulatory clients*, but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. Buildings of Group R-4 shall be classified as one of the occupancy conditions specified in ~~Section 310.5.1 or 310.5.2~~. *The persons receiving care are capable of self-preservation.* This group shall include, but not be limited to, the following:

This occupancy classification may include a maximum six non-ambulatory or bedridden clients (see Section 435 Special Provisions for Licensed 24-Hour Care Facilities in a Group R-2.1, R-3.1 or R-4 Occupancy). ~~*Group R-4 occupancies shall include the following:*~~

~~Alcohol and drug centers~~
~~Assisted living facilities~~
~~Congregate care facilities~~
~~Group homes~~
~~Halfway houses~~
~~Residential board and care facilities~~
~~Social rehabilitation facilities~~

Assisted living facilities *such as:*
Residential care facilities,
Residential care facilities for the elderly (RCFE),
Adult residential facilities,
Congregate living health facilities,
Group homes.

Social rehabilitation facilities such as:
Halfway houses,
Community correctional centers,
Community correction reentry centers,
Community treatment programs,
Work furlough programs,
Alcoholism or drug abuse recovery or treatment facilities.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code.

~~**310.5.1 Condition 1.** This occupancy condition shall include buildings in which all persons receiving custodial care, without any assistance, are capable of responding to an emergency situation to complete building evacuation.~~

~~**310.5.2 Condition 2.** This occupancy condition shall include buildings in which there are any persons receiving custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.~~

[Chapter 4]

[The SFM proposes to adopt Chapter 4 with the following amendments and California regulations.]
[See Part 2 for existing SFM amendments and California regulations that are brought forward without modification.]

…

SECTION 403
HIGH-RISE BUILDINGS *AND GROUP I-2 OCCUPANCIES HAVING AN OCCUPIED FLOORS ~~LOCATED MORE THAN AT OR ABOVE~~ 75 FEET ~~ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS~~*

403.1 Applicability. *New* high-rise buildings *having occupied floors located more than 75 feet above the lowest floor level having building access and new Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access* shall comply with Sections 403.2 through *403.7*.

Exception: The provisions of Sections 403.2 through 403.~~6~~*7* shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.2.
2. Open parking garages in accordance with Section 406.5.
~~3. The portion of a building containing a Group A-5 occupancy in accordance with Section 303.6.~~
~~4~~ *3*. Special industrial occupancies in accordance with Section 503.1.1.
~~5~~ *4*. Buildings containing any one of the following:
    5.1. A Group H-1 occupancy.
    5.2. A Group H-2 occupancy in accordance with Section 415.8, 415.9.2, 415.9.3 or 426.1.
    5.3. A Group H-3 occupancy in accordance with Section 415.8.
~~5~~ *5. Buildings such as power plants, lookout towers, steeples, grain houses and similar structures with non-continuous human occupancy, when so determined by the enforcing agency.*

For existing high-rise buildings and for existing Group R occupancies, see California Fire Code Chapter 11 and California Existing Building Code.

For the purposes of this section, in determining the level from which the highest occupied floor is to be measured, the enforcing agency should exercise reasonable judgment, including consideration of overall accessibility to the building by fire department personnel and vehicular equipment. When a building is located on sloping terrain and there is building access on more than one level, the enforcing agency may select the level that provides the most logical and adequate fire department access.

[Definition moved to Chapter 2]
~~403.1.1 Definitions.~~ *~~The following terms are defined in Chapter 2.~~*

~~HIGH-RISE BUILDING.~~
~~HIGH-RISE BUILDING ACCESS.~~
~~NEW HIGH-RISE BUILDING.~~

…

403.2.1.1 Type of construction. The following reductions in the minimum fire-resistance rating of the building elements in Table 601 shall be permitted as follows:

1. For buildings not greater than 420 feet (128 m) in building height, the fire-resistance rating of the building elements in Type IA construction shall be permitted to be reduced to the minimum fire resistance ratings for the building elements in Type IB.

    Exception: The required fire-resistance rating of ~~columns supporting floors~~ *the primary structural frame* shall not be *permitted to be* reduced.

2. In other than Group F-1, H-2, H-3, H-5, M and S-1 occupancies, the fire-resistance rating of the building elements in Type IB construction shall be permitted to be reduced to the fire-resistance ratings in Type IIA.

Exception: *The required fire-resistance rating of the primary structural frame shall not be permitted to be reduced.*

3. The building height and building area limitations of a building containing building elements with reduced fire-resistance ratings shall be permitted to be the same as the building without such reductions.

…

403.3.2 Water supply to required fire pumps. In buildings ~~*having an occupied floor*~~ that are more than *120* feet (*36 576 mm*) in *building height* ~~*above the lowest level of fire department vehicle access*~~, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exceptions*:* Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

403.3.2.1 Fire Pumps: *Redundant fire pump systems shall be required for high-rise buildings ~~having an occupied floor~~ more than 200 feet in building height. ~~above the lowest level of fire department vehicle access~~. Each fire pump system shall be capable of automatically supplying the required demand for the automatic sprinkler and standpipe systems.*

403.3.3 Secondary water supply. An automatic secondary on-site water supply having a *usable* capacity *of* not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings *and applicable Group I-2 occupancies (see 403.1)* ~~*having occupied floors located more than 75 ft above the lowest level of fire department vehicle access*~~ assigned to Seismic Design Category C, D, E or F as determined by Section 1613. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the automatic sprinkler system. The secondary water supply shall have a *useable capacity of not less than the hydraulically calculated sprinkler demand plus 100 GPM for the inside hose stream, allowance, for a* duration of not less than 30 minutes or as determined by the occupancy hazard classification in accordance with NFPA 13*, whichever is greater. The Class I standpipe system demand shall not be required to be included in the secondary on-site water supply calculations. In no case shall the secondary on-site water supply be less than 15,000 gallons*.

…

406.6.2. Ventilation. …

Exception: Mechanical ventilation shall not be required for enclosed parking garages that ~~serve~~ are accessory to *Group R-3* one- and two-family dwellings.

407.2.6 Nursing home cooking facilities. In Group I-2, ~~Condition 1~~ occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted ~~to be open to the corridor~~ *in fully sprinklered buildings* where all of the following criteria are met:

1. The number of care recipients housed in the smoke compartment is not greater than 30.

2. The number of care recipients served by the cooking facility is not greater than 30.

3. ~~Not more than~~ *Only* one cooking facility area is permitted in a smoke compartment.

4. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.

~~5. The corridor shall be a clearly identified space delineated by construction or floor pattern, material or color.~~

~~6~~ *5*. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required exit.

~~7~~*6*. A domestic cooking hoods installed and constructed in accordance with ~~Section 505 of~~ the *California* Mechanical Code shall be provided over the cooktops and ranges.

~~8~~*7*. Cooktops and ranges shall be protected in accordance with Section 904.13.

~~9~~*8*. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff.

~~10~~*9*. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.

~~11~~*10*. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906, and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.

…

407.5.1 Smoke compartment size. Stories shall be divided into smoke compartments with an area of not more than 22,500 square feet (2092 m2) in Group I-2 occupancies.
Exceptions:
1. A smoke compartment in Group I-2, Condition 2 is permitted to have an area of not more than 40,000 square feet (3716 m2) provided that all patient sleeping rooms within that smoke compartment are configured for single patient occupancy and any suite within the smoke compartment complies with Section 407.4.4.
2. A smoke compartment in Group I-2, Condition 2 without patient sleeping rooms is permitted to have an area of not more than 40,000 square feet (3716 m2).

407.5.2 Exit access travel distance. The distance of travel from any point in a smoke compartment to a smoke barrier door shall be not greater than 200 feet (60 960 mm).

407.5.~~1~~3 Refuge area. …

[Deleting 407.5.2 adopting Model code language 407.5.4]

~~**407.5.2 Independent egress.** *At least two* means of egress shall be provided from each smoke compartment created by smoke barriers. *Means of egress may pass through adjacent compartments provided it does* not return through the smoke compartment from which *means of egress* originated.~~

407.5.4 Independent egress. A means of egress shall be provided from each smoke compartment created by smoke barriers without having to return through the smoke compartment from which means of egress originated. Smoke compartments that do not contain an exit shall be provided with direct access to not less than two adjacent smoke compartments.

407.5.~~3~~5 Horizontal assemblies. …

407.6 Automatic-closing doors. Automatic-closing doors with hold-open devices shall comply with Sections 709.5 and 716.2.

407.~~6~~7 Automatic sprinkler system. …

407.~~7~~8 Fire alarm system. …

407.~~8~~9 Automatic fire detection. …

407.~~9~~10 Secured yards. …

407.~~10~~11 Electrical systems. …

407.~~11~~12 Special hazards. …

…

[Definitions moved to chapter 2]

~~**408.1.1 Definitions.** The following terms are defined in Chapter 2:~~
~~**CELL.**~~
~~***CELL COMPLEX.***~~
~~**CELL TIERS.**~~
~~***CENTRAL CONTROL BUILDING.***~~
~~***COURTROOM DOCK.***~~
~~***COURTHOUSE HOLDING FACILITY.***~~
~~***DAY ROOM.***~~
~~***DETENTION ELEVATOR.***~~
~~***DETENTION TREATMENT ROOM.***~~
~~***DORMITORY.***~~
~~***HOLDING FACILITY.***~~
~~**HOUSING UNIT.**~~
~~***RESTRAINT.***~~
~~**SALLYPORT.**~~
~~***SMALL MANAGEMENT YARD.***~~
~~***SECURE INTERVIEW ROOMS.***~~
~~***TEMPORARY HOLDING CELL, ROOM OR AREA.***~~
~~***TEMPORARY HOLDING FACILITY.***~~

…

408.1.2.2 Intervening spaces. *Common rooms and spaces within Group I-3 occupancies can be considered an intervening space in accordance with Section ~~1014.2~~ 1016.2, and not considered a corridor, when they meet any of the following:*

1. Within prisons and local detention facilities of Type I Construction, the exit access within a housing unit, may be a non-rated corridor provided the required exit occupant load from any dayroom does not exceed 64 persons.

2. Within prison, jails, and courthouses: temporary holding areas of noncombustible construction and an occupant load less than 100.

3. Within prisons and local detention facilities, correctional medical or mental health housing suites, of noncombustible construction~~.~~ and an occupant load less than 100.

4. Within prisons and local detention facilities: detention program areas of noncombustible construction and an occupant load less than 100.

…

408.9.1 Smoke venting. *The housing portions of windowless buildings containing use conditions 3, 4 or 5 shall be provided with an engineered smoke control system in accordance with Section 909, windows or doors, smoke vents,*

or equivalent means to provide a tenable environment for exiting from the smoke compartment in the area of fire origin. A tenable environment for egress shall be as defined in NFPA 92. If windows, smoke vents or doors are used to meet this section, at least two windows, smoke vents or doors to the exterior must be provided at or above the highest occupied level in each smoke compartment, and the windows or doors must be operable or readily breakable and arranged to manually vent smoke.

Exceptions:

1. Windowless buildings or portions of a building that meet all of the following requirements:

1.1. Are Type IA or IB construction

1.2. Are protected with sprinklers throughout in accordance with Section 903.3.1.1

1.3. Include a fire alarm system with smoke detection in accordance with NFPA 72 in the dayroom and/or corridor serving as exit access from the cells, reporting to a 24-hour central control at the institution

1.4. Include at least one exit from each housing unit direct to the exterior where smoke will not accumulate or to the exterior through a 1 hour rated corridor serving only that unit.

1.5. The building is divided into at least two smoke compartments per Section 408.6.1

1.6. As approved by the enforcing agency, an egress analysis shows that inmates can be evacuated within 6 minutes from the smoke compartment of origin 24 hours per day or when inmates are present, or the facility is provided with gang or electric locks.

2. No venting or smoke control is required when an engineering analysis shows an acceptable safe egress time compared to the onset of untenable conditions within a windowless building or portion of a windowless building and approved by the enforcing agency. (See Section 909.4)

…

415.5.4 Emergency alarm systems. Emergency alarm systems required by Section 415.5.1 or 415.5.2 shall be provided with emergency or standby power in accordance with Section 2702.2~~.8 and 2702.2.14.~~

…

[Adopt model code language from 415.11.7 through 415.11.7.2]

415.11.7 Gas detection systems. ~~*A gas detection system complying with Section 916*~~ A gas detection system complying with Section 916 shall be provided for HPM gases where the physiological warning threshold level of the gas is at a higher level than the accepted permissible exposure limit (PEL) for the gas and for flammable gases in accordance with Sections 415.11.7.1 through 415.11.7.2.

415.11.7.1 Where required. A gas detection system shall be provided in the areas identified in Sections 415.11.7.1.1 through 415.11.7.1.4.

415.11.7.1.1 Fabrication areas. A gas detection system shall be provided in fabrication areas where HPM gas is used in the fabrication area.

415.11.7.1.2 HPM rooms. A continuous gas detection system shall be provided in HPM rooms where HPM gas is used in the room.

415.11.7.1.3 Gas cabinets, exhausted enclosures and gas rooms. A gas detection system shall be provided in gas cabinets and exhausted enclosures for HPM gas. A gas detection system shall be provided in gas rooms where HPM gases are not located in gas cabinets or exhausted enclosures.

415.11.7.1.4 Corridors. Where HPM gases are transported in piping placed within the space defined by the walls of a corridor and the floor or roof above the corridor, a gas detection system shall be provided where piping is located and in the *corridor*.

Exception: A gas detection system is not required for occasional transverse crossings of the corridors by supply piping that is enclosed in a ferrous pipe or tube for the width of the corridor.

415.11.7.2 Gas detection system operation. The gas detection system shall be capable of monitoring the room, area or equipment in which the HPM gas is located at or below all the following gas concentrations:

1. Immediately dangerous to life and health (IDLH) values where the monitoring point is within an exhausted enclosure, ventilated enclosure or gas cabinet.

2. Permissible exposure limit (PEL) levels when the monitoring point is in an area outside an exhausted enclosure, ventilated enclosure or gas cabinet.

3. For flammable gases, the monitoring detection threshold level shall be vapor concentrations in excess of 25 percent of the lower flammable limit (LFL) where the monitoring is within or outside an exhausted enclosure, ventilated enclosure or gas cabinet.

4. Except as noted in this section, monitoring for highly toxic and toxic gases shall also comply with Chapter 60 of the *California Fire Code*.

…

415.12 Group H occupancies located ~~above the 10th story~~ on the 11th story and above.

415.12.1 Fire – smoke barrier. *Any story containing a Group H occupancy ~~above the 10th story~~ on the 11th story and above shall be subdivided by a fire-smoke barrier constructed as a fire barrier having a fire resistance rating of not less than 2 hours and shall also comply with the smoke barrier requirements of Section 710. The 2-hour fire-smoke barrier shall be in accordance with Sections 415.~~11~~12.1.1 through 415.~~11~~12.1.5.*

415.12.1.1 *The 2-hour fire-smoke barrier shall be continuous from exterior wall to exterior wall.*

415.12.1.2 *The fire-smoke barrier shall divide the story so that the square footage on each side of the 2-hour fire-smoke barrier is not less than 30 percent of the total floor area.*

415.12.1.3 *A minimum of one door opening shall be provided in the 2-hour fire-smoke barrier for emergency access.*

415.12.1.4 *Each side of the 2-hour fire-smoke barrier shall be designed as a separate smoke zone designed in accordance with Section 909.~~6~~5.*

415.12.1.5 *The area on each side of the 2-hour fire-smoke barrier shall be served by a minimum of one exit enclosure in accordance with Section 1022.*

415.13 Elevators and elevator lobbies ~~above the 10th story~~ on the 11th story and above. *Any story containing a Group H occupancy ~~above the 10th story~~ on the 11th story and above shall be provided with elevators and elevator lobbies in accordance with Sections 415.13.1 through 415.13.3.*

415.13.1 *An elevator that serves every story of the building shall be provided on each side of the 2-hour fire-smoke barrier.*

415.13.2 *An elevator lobby shall be provided on each side of the 2-hour fire-smoke barrier at each floor in accordance with Section ~~708.14.1.~~ 708.4 Exceptions to ~~708.14.1~~ 708.4 shall not apply.*

415.13.3 *The elevator and its associated elevator lobbies and elevator machine rooms shall be pressurized in accordance with Section 909.~~6~~5.*

…

~~**420.7 Group I-1 assisted living housing units.** In Group I-1 occupancies, where a fire-resistance corridor is provided in areas where assisted living residents are housed, shared living spaces, group meeting or multipurpose therapeutic spaces open to the corridor shall be in accordance with all of the following criteria:~~

~~1. The walls and ceilings of the space are constructed as required for corridors.~~

~~2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses.~~

~~3. The open space is protected by an automatic fire detection system installed in accordance with Section 907.~~

~~4. In Group I-1, Condition 1, the corridors onto which the spaces open are protected by an automatic fire detection system installed in accordance with Section 907, or the spaces are equipped throughout with quick response sprinklers in accordance with Section 903.3.2.~~

~~5. In Group I-1, Condition 2, the corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.~~

~~6. The space is arranged so as not to obstruct access to the required exits.~~

~~**420.8 Group I-1 cooking facilities.** In Group I-1 occupancies, rooms or spaces that contain cooking facilities with domestic cooking appliances shall be in accordance with all of the following criteria:~~

~~1. In Group I-1, Condition 1 occupancies, the number of care recipients served by one cooking facility shall not be greater than 30.~~

~~2. In Group I-1, Condition 2 occupancies, the number of care recipients served by one cooking facility and within the same smoke compartment shall not be greater than 30.~~

~~3. The types of domestic cooking appliances permitted shall be limited to ovens, cooktops, ranges, warmers and microwaves.~~

~~4. The space containing the domestic cooking facilities shall be arranged so as not to obstruct access to the required exit.~~

~~5. Domestic cooking hoods installed and constructed in accordance with Section 505 of the *International Mechanical Code* shall be provided over cooktops or ranges.~~

~~6. Cooktops and ranges shall be protected in accordance with Section 904.13.~~

~~7. A shutoff for the fuel and electrical supply to the cooking equipment shall be provided in a location that is accessible only to staff.~~

~~8. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.~~

~~9. A portable fire extinguisher shall be provided. Installation shall be in accordance with Section 906 and the extinguisher shall be located within a 30-foot (9144 mm) distance of travel from each domestic cooking appliance.~~

~~**420.8.1 Cooking facilities open to the corridor.** Cooking facilities located in a room or space open to a corridor, aisle or common space shall comply with Section 420.8.~~

420.9 Group R cooking facilities. In Group R occupancies, cooking appliances used for domestic cooking operations shall be in accordance with ~~Section 917.2 of the *International*~~ *California Mechanical Code.*

420.10 Group R-2 dormitory cooking facilities. Domestic cooking appliances for use by residents of Group R-2 college dormitories shall be in accordance with Sections 420.10.1 and 420.10.2.

420.10.1 Cooking appliances. Where located in Group R-2 college dormitories, domestic cooking appliances for use by residents shall be in compliance with all of the following:

1. The types of domestic cooking appliances shall be limited to ovens, cooktops, ranges, warmers, coffee makers and microwaves.

2. Domestic cooking appliances shall be limited to approved locations.

3. Cooktops and ranges shall be protected in accordance with Section 904.13.

4. Cooktops and ranges shall be provided with a domestic cooking hood installed and constructed in accordance with ~~Section 505 of the *International*~~ *California Mechanical Code*.

420.10.2 Cooking appliances in sleeping rooms. Cooktops, ranges and ovens shall not be installed or used in sleeping rooms.

…

SECTION 421
HYDROGEN FUEL GAS ROOMS

[Editorial Note: Remove existing amendments to Section 421.1 through 421.7. Model code now matches old CA amendments.]

421.1 General. When required by the *California* Fire Code, hydrogen fuel gas rooms shall be designed and constructed in accordance with Sections 421.1 through 421.7.

~~**421.2 Definitions.** The following terms are defined in Chapter 2:~~
~~**GASEOUS HYDROGEN SYSTEM**~~
~~**HYDROGEN FUEL GAS ROOM.**~~

421.2 Location. Hydrogen fuel gas rooms shall not be located below grade.

421.3 Design and construction. Hydrogen fuel gas rooms not classified as Group H shall be separated from other areas of the building in accordance with Section 509.1.

421.3.1 Pressure control. Hydrogen fuel gas rooms shall be provided with a ventilation system designed to maintain the room at a negative pressure in relation to surrounding rooms and spaces.

421.3.2 Windows. Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted where in accordance with Section 716.

421.4 Exhaust ventilation. Hydrogen fuel gas rooms shall be provided with mechanical exhaust ventilation in accordance with the applicable provisions ~~of Section 502.16.1~~ of the *California* Mechanical Code.

421.5 Gas detection system. Hydrogen fuel gas rooms shall be provided with a gas detection system that complies with Sections 421.5.1 through 421.5.2 and 916.

421.5.1 System activation. Activation of the gas detection alarm shall result in both of the following:

1. Initiation of distinct audible and visible alarm signals both inside and outside of the hydrogen fuel gas room.

2. Automatic activation of the mechanical exhaust ventilation system.

421.5.2 Failure of the gas detection system. Failure of the gas detection system shall automatically activate the mechanical exhaust ventilation system, stop hydrogen generation, and cause a trouble signal to sound at an approved location.

421.6 Explosion control. Explosion control shall be provided where required by Section 414.5.1.

421.7 Standby power. Mechanical ventilation and gas detection systems shall be provided with a standby power system in accordance with Section 2702.

…

435.3.3 Limitations seven or more clients. *Group R-4 occupancies where nonambulatory clients are housed above the first story and there is more than 3,000 square feet (279 m2) of floor area above the first story or housing not more than 16 clients above the first story shall be constructed of not less than one-hour fire-resistance-rated construction throughout.*

435.3.4 Ambulatory and Nonambulatory elderly clients*. Group R-4 occupancies housing nonambulatory elderly clients shall be of not less than one-hour fire-resistance-rated construction throughout.*

…

435.8.7 Floor separation*. Group R-3.1 occupancies ~~with non-ambulatory clients housed above the first floor~~ shall be provided with a ~~non-~~fire resistance constructed floor separation at stairs which will prevent smoke migration between floors. Such floor separation shall have equivalent construction of 0.5-inch (12.7 mm) gypsum wallboard on one side of wall framing.*

Exceptions:

1. Occupancies with at least one exterior exit from floors occupied by clients.

2. Occupancies provided with automatic fire sprinkler systems complying with Chapter 9.

…

450.5.1 Special buildings. *In addition to the provisions of Section 450.7, special buildings conforming to the limitations specified in Section 450.4.1 shall conform to the following:*

1. The flame-spread end-point rating of all interior finish materials shall not exceed 200.

2. Every room or area housing more than eight persons shall be provided with not less than two approved exits, each of which shall be direct to the exterior and shall not be less than 32 inches (813 mm) in clear width and 6 feet 8 inches (2032 mm) in height. Rooms or areas housing eight or less persons shall be provided with at least one such exit direct to the exterior.

3. Every exit door shall be openable from the inside without the use of any key, special knowledge or effort.

4. Exit doors need not be hung to swing in the direction of exit travel. Where exit doors are hung to swing in the direction of exit travel, a landing conforming to the provisions of Section ~~1008.1.5~~ 1010.1.5 shall be provided.

5. When the distance (measured vertically) between the ground level and the floor level exceeds 8 inches (203 mm), a stairway from each exit shall be provided. Steps shall have a rise of not more than 8 inches (203 mm) and a run of not less than 9 inches (229 mm). Such stairway shall be at least as wide as the door it serves.

Exception: *In lieu of a stairway, a ramp having a slope of not more than 1 foot (305 mm) of rise for each 8 feet (2438 mm) of run may be provided.*

6. When the floor level at any door opening of any building or structure is more than 30 inches (762 mm) above the adjacent ground level, handrails or guardrails shall be provided on the landing, balcony or porch, and on every stairway or ramp to ground level.

7. Buildings and structures or groups of buildings and structures shall be separated from each other by not less than 10 feet (3048 mm).

Exception: *This section shall not apply to existing buildings and structures of ~~existing~~ Group C Occupancies.*

…

455.8 Exiting. *See Section ~~1015.7~~ 1006.2.2.7.*

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

[Chapter 7]

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

[Chapter 9]

…

TABLE 903.2.11.6
ADDITIONAL REQUIRED SUPPRESSION SYSTEMS

SECTION	SUBJECT
402.5, 402.6.2	Covered and open mall buildings
~~403.3~~	~~High-rise buildings~~
403.3	High-rise buildings *and Applicable Group I-2 occupancies ~~having occupied floors located more than 75 feet above the lowest level of fire department vehicle access~~*
404.3	Atriums
405.3	Underground structures
407.6	Group I-2
410.7	Stages
411.4	Special amusement buildings
412.3.6	Airport traffic control towers
412.4.6, 412.4.6.1, 412.6.5	Aircraft hangars

415.11.11	Group H-5 HPM exhaust ducts
416.5	Flammable finishes
417.4	Drying rooms
419.5	Live/work units
424.3	Children's play structures
440	*Horse Racing Stables*
441	*Pet Kennels*
449	*Public Libraries*
507	Unlimited area buildings
509.4	Incidental use areas
1029.6.2.3	Smoke-protected assembly seating
CFC	Sprinkler system requirements as set forth in Section 903.2.11.6 of the *California Fire Code*

For SI: 1 cubic foot = 0.023 m3.

…

903.4.3 Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings *and* applicable *Group I-2 occupancies.* ~~*having occupied floors located more than 75 feet above the lowest level of fire department vehicle access.*~~

…

905.3.1 Height. *In other than Group R-3 and R-3.1 occupancies,* class III standpipe systems shall be installed throughout *at each floor where any of the following occur:*

~~*2*~~ *1. Buildings that are four or more stories in height*

~~*1*~~ *2. Buildings where* the floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of fire department vehicle access.

3. Buildings where the floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

4. Buildings that are two or more stories below grade plane. ~~*the highest level of fire department vehicle access.*~~

Exceptions:

1. Class I standpipes are allowed in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. Class I standpipes are allowed in Group B and E occupancies.

3. Class I manual standpipes are allowed in open parking garages where the highest floor is located not more than 150 feet (45 720 mm) above the lowest level of fire department vehicle access.

4. Class I manual dry standpipes are allowed in open parking garages that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.

5. Class I standpipes are allowed in basements equipped throughout with an automatic sprinkler system.

6. Class I standpipes are allowed in buildings where occupant-use hose lines will not be utilized by trained personnel or the fire department.

7. In determining the lowest level of fire department vehicle access, it shall not be required to consider either of the following:

7.1. Recessed loading docks for four vehicles or less.

7.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

…

907.2.~~13~~12 High-rise buildings *and applicable Group I-2 occupancies ~~having occupied floors located more than 75 feet above the lowest level of fire department vehicle access~~*. High-rise buildings *and applicable Group I-2 occupancies ~~having occupied floors located more than 75 feet above the lowest level of fire department vehicle access~~* shall be provided with an automatic smoke detection system in accordance with Section 907.2.12.1, a fire department communication system in accordance with Section 907.2.12.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.

Exceptions:

1. Airport traffic control towers in accordance with Sections 412 and 907.2.21.
2. Open parking garages in accordance with Section 406.5.
3. ~~Buildings with an occupancy in Group A-5 in accordance with Section 303.1.~~
4 *3.* Low-hazard special occupancies in accordance with Section 503.1.1.
4. Buildings with an occupancy in H-1, H-2 or H-3 in accordance with Section 415.
5. In Group I-2*, I-2.1 and R-2.1* occupancies, the alarm shall sound at a constantly attended location and occupant notification shall be broadcast by the emergency voice/alarm communication system.

…

907.2.~~13~~12.1 Automatic smoke detection. Automatic smoke detection in high-rise buildings *and applicable Group I-2 occupancies ~~having occupied floors located more than 75 feet above the lowest level of fire department vehicle access~~* shall be in accordance with Sections 907.2.~~13~~12.1.1 and 907.2.~~13~~12.1.2.

…

907.5.2.2 Emergency voice/alarm communication systems. Emergency voice/alarm communication systems required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler waterflow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving approved information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404 of the *California Fire Code*. In high-rise buildings *and applicable Group I-2 occupancies ~~having occupied floors located more than 75 feet above the lowest level of fire department vehicle access~~,* the system shall operate on at least the alarming floor, the floor above and the floor below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. Interior exit stairways.
3. Each floor.
4. Areas of refuge as defined in Chapter 2.

Exception: In Group I-2*, I-2.1 and R-2.1* occupancies, the alarm shall sound in a constantly attended area and a general occupant notification shall be broadcast over the overhead page.

…

907.6.4.2 High-rise buildings. In high-rise buildings *and applicable Group I-2 occupancies ~~having occupied floors located more than 75 feet above the lowest level of fire department vehicle access~~,* a separate zone by floor shall be provided for each of the following types of alarm-initiating devices where provided:

1. Smoke detectors

2. Sprinkler waterflow devices
3. Manual fire alarm boxes
4. Other approved types of automatic fire detection devices or suppression systems

…

911.1 General. Where required by other sections of this code and in buildings classified as high-rise buildings by this code *and* *applicable* *Group I-2 occupancies* ~~*having occupied floors located more than 75 feet above the lowest level of fire department vehicle access*~~, a fire command center for fire department operations shall be provided and shall comply with Sections 911.1.1 through 911.1.6.

…

904.12 Commercial cooking systems. *Commercial cooking equipment that produces grease laden vapors shall be provided with a Type I Hood, in accordance with the California Mechanical Code, and an automatic fire extinguishing system that is listed and labeled for its intended use as follows:*

1. Wet chemical extinguishing system, complying with UL 300.

2. Carbon dioxide extinguishing systems.

3. Automatic fire sprinkler systems.

All existing dry chemical and wet chemical extinguishing systems shall comply with UL 300.

Exception:
Public school~~s~~ kitchens, without deep-fat fryers, shall be upgraded to a UL 300 compliant system during state funded modernization projects that are under the jurisdiction of the Division of the State Architect.

All systems shall be installed in accordance with the California Mechanical Code, appropriate adopted standards, their listing and the manufacturer's installation instructions.

Exception: Factory-built commercial cooking recirculating systems that are tested, *listed, labeled and installed* in accordance with UL 710B and the *California Mechanical Code*.

…

904.13 Domestic cooking systems. Cooktops and ranges installed in the following occupancies shall be protected in accordance with Section 904.13.1:

1. In Group ~~I-1~~ *R-2.1* occupancies where domestic cooking facilities are installed in accordance with Section 420.8.

2. In Group I-2 *and I-2.1*, ~~Condition 1~~ occupancies where domestic cooking facilities are installed in accordance with Section 407.2.6.

3. In Group R-2 college dormitories where domestic cooking facilities are installed in accordance with Section 420.10.

…

907.2.5.1 Group H occupancies located ~~above the 10th story~~ on the 11th story and above. *Manual fire alarm boxes shall be required on each side of the 2-hour fire-smoke barrier and at each exit ~~above the 10th story~~ on the 11th story and above.*

…

[OFSM is proposing to delete the CA amendments and adopt the model text of 916]

~~SECTION 916~~
~~GAS DETECTION SYSTEMS~~

~~916.1 General.~~ *~~Gas detection systems required by this code shall comply with Sections 916.2 through 916.11.~~*

~~916.2 Construction documents.~~ *~~Documentation of the gas detection system design and equipment to be used that~~*

~~*is adequate to demonstrate compliance with the requirements of this code shall be provided with the application for permit.*~~

~~***916.3 Equipment.*** *Gas detection system equipment shall be designed for use with the gases being detected and shall be installed in accordance with manufacturers' instructions.*~~

~~***916.4 Power connections.*** *Gas detection systems shall be permanently connected to the building electrical power supply or shall be permitted to be cord connected to an unswitched receptacle using an approved restraining means that secures the plug to the receptacle.*~~

~~***916.5 Emergency and standby power.*** *Where standby or emergency power is not required elsewhere by this code, standby or emergency power shall be provided or the gas detection system shall initiate a trouble signal at an approved location if the power supply is interrupted.*~~

~~***916.6 Sensor locations.*** *Where a specific location for sensors is not specified elsewhere by this code, sensors shall be installed in approved locations where leaking gases are expected to accumulate.*~~

~~***916.7 Gas sampling.*** *Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:*~~

~~*1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.*~~

~~*2. For toxic gases that are not HPM, sample analysis shall be performed at intervals not exceeding 5 minutes in accordance with Section 6004.2.2.7 of the International Fire Code.*~~

~~*3. Where a less frequent or delayed sampling interval is approved.*~~

~~***916.8 System activation.*** *A gas detection alarm shall be initiated where any sensor detects a concentration of gas exceeding the following thresholds:*~~

~~*1. For flammable gases, a gas concentration exceeding 25 percent of the lower flammable limit (LFL).*~~

~~*2. For non-flammable gases, a gas concentration exceeding the threshold specified by the section of this code requiring a gas detection system.*~~

~~*Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code or the International Fire Code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinctive from fire alarm and carbon monoxide alarm signals.*~~

~~***916.9 Signage.*** *Signs shall be provided adjacent to gas detection system alarm signaling devices that advise occupants of the nature of the signals and actions to take in response to the signal.*~~

~~***916.10 Fire alarm system connections.*** *Gas sensors and gas detection systems shall not be connected to fire alarm systems unless approved and connected in accordance with the fire alarm equipment manufacturer's instructions.*~~

~~***916.11 Inspection, testing and sensor calibration.*** *Gas detection systems and sensors shall be inspected, tested and calibrated in accordance with the International Fire Code.*~~

…

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

[Chapter 10]

…

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	**OCCUPANT LOAD FACTOR [a]**
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal Baggage claim Baggage handling Concourse Waiting areas	 20 gross 300 gross 100 gross 15 gross
Assembly Gaming floors (keno, slots, etc.) Exhibit gallery and museum	 11 gross 30 net
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats Concentrated (chairs only-not fixed) Standing space Unconcentrated (tables and chairs)	 7 net 5 net 15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas ~~Concentrated business use areas~~	*100 gross* ~~150 gross~~ ~~See Section 1004.8~~
Courtrooms-other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational Classroom area *(K – 12th grade)* Shops and other vocational room areas	 20 net 50 net
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross

Industrial areas	100 gross
Institutional areas Inpatient treatment areas Outpatient areas Sleeping areas	 240 gross 100 gross 120 gross
Kitchens, commercial	200 gross
Laboratory *Educational (K-12 and colleges)* *Laboratories, non-educational* *Laboratory suite* [b]	 *50 net* *100 net* *200 gross*
Library Reading rooms Stack area	 50 net 100 gross
Locker rooms	50 gross
Mall buildings – covered and open	See Section 402.8.2
Mercantile Areas on other floors Storage, stock, shipping areas	 60 gross 300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools Rink and pool Decks	 50 gross 15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m2.
[a] Floor area in square feet per occupant.
[b] *See Section 453.2.*

…

~~1004.8 Concentrated business use areas.~~ ~~The occupant load factor for concentrated business use shall be applied to telephone call centers, trading floors, electronic data processing centers and similar business use areas with a higher density of occupants than would normally be expected in a typical business occupancy environment. Where approved by the building official, the occupant load for concentrated business use areas shall be the actual occupant load, but not less than one occupant per 50 square feet (4.65 m2) of gross occupiable floor space.~~

…

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

[Chapter 15]

1507.18 Building-integrated photovoltaic roof panels. The installation of building-integrated photovoltaic (BIPV) roof panels shall comply with the provisions of this section.

1507.18.1 Deck requirements. BIPV roof panels shall be applied to a solid or closely fitted deck, except where the roof covering is specifically designed to be applied over spaced sheathing.

1507.18.2 Deck slope. BIPV roof panels shall be used only on roof slopes of two units vertical in 12 units (2:12) or greater.

1507.18.3 Underlayment. Underlayment shall comply with ASTM D226, ASTM D4869 or ASTM D6757.

1507.18.4 Underlayment application. Underlayment shall be applied shingle fashion, parallel to and starting from the eave, lapped 2 inches (51 mm) and fastened sufficiently to hold in place.

1507.18.4.1 High-wind attachment. Underlayment applied in areas subject to high winds [V_{asd} greater than 110 mph (49 m/s) as determined in accordance with Section 1609.3.1] shall be applied in accordance with the manufacturer's instructions. Fasteners shall be applied along the overlap at not more than 36 inches (914 mm) on center. Underlayment installed where V_{asd} is not less than 120 mph (54 m/s) shall comply with ASTM D226, Type III, ASTM D4869, Type IV or ASTM D6757. The underlayment shall be attached in a grid pattern of 12 inches (305 mm) between side laps with a 6-inch (152 mm) spacing at the side laps. The underlayment shall be applied in accordance with Section 1507.2.8 except all laps shall be not less than 4 inches (102 mm). Underlayment shall be attached using cap nails or cap staples. Caps shall be metal or plastic with a nominal head diameter of not less than 1 inch (25.4 mm). Metal caps shall have a thickness of not less than 0.010 inch (0.25 mm). Power-driven metal caps shall have a thickness of not less than 0.010 inch (0.25 mm). Thickness of the outside edge of plastic caps shall be not less than 0.035 inch (0.89 mm). The cap nail shank shall be not less than 0.083 inch (2.11 mm) for ring shank cap nails and 0.091 inch (2.31 mm) for smooth shank cap nails. Staple gage shall be not less than 21 gage [0.0.2 inch (0.81 mm)]. Cap nail shank and cap staple legs shall have a length sufficient to penetrate through-the-roof sheathing or not less than ¾ inch (19.1 mm) into the roof sheathing.
Exception: As an alternative, adhered underlayment complying with ASTM D1970 shall be permitted.

1507.18.4.2 Ice barrier. In areas where there has been a history of ice forming along the eaves causing a backup of water, an ice barrier consisting of not fewer than two layers of underlayment cemented together or of a self-adhering polymer/modified bitumen sheet shall be used instead of normal underlayment and extend from the lowest edges of all roof surfaces to a point not less than 24 inches (610 mm) inside the exterior wall line of the building.
Exception: Detached accessory structures that do not contain conditioned floor area.

1507.18.5 Material standards. BIPV roof panels shall be listed and labeled in accordance with UL 1703.

1507.18.6 Attachment. BIPV roof panels shall be attached in accordance with the manufacturer's installation instructions.

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50

[Chapter 27]

…

2702.2.9~~1~~1 High-rise buildings *and applicable Group I-2 occupancies ~~having occupied floors located more than 75 feet above the lowest level of fire department vehicle access~~*. Emergency and standby power shall be provided in high-rise buildings *and applicable Group I-2 occupancies ~~having occupied floors located more than 75 feet above the lowest level of fire department vehicle access~~* as required in Section 403.4.8.

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500

through 25545, Government Code Section 51189, Public Education Code 17074.50

[Chapter 30.]

…

3001.3 Referenced standards. Except as otherwise provided for in this code, the design, construction, installation, alteration, repair and maintenance of elevators and conveying systems and their components shall conform to the applicable standard specified in Table 3001.3, *California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*, ASME A90.1, ASME B20.1, ALI ALCTV, and ASCE 24 for construction in flood hazard areas established in Section 1612.3.

…

TABLE 3001.3
ELEVATORS AND CONVEYING SYSTEMS AND COMPONENTS

Automotive lifts	ALI ALCTV
Belt man lifts	ASME A90.1
Conveyors and related equipment	ASME B20.1
Elevators, escalators, dumbwaiters, moving walks, material lifts	ASME A17.1/CSA B44, ASME A17.7/CSA B44.7
Industrial scissor lifts	ANSI MH29.1
Platform lifts, stairway chairlifts, wheelchair lifts	ASME A18.1

…

3001.~~5~~6 Elevators utilized to transport hazardous materials. *Elevators utilized to transport hazardous materials shall also comply with the California Fire Code Section ~~2703.10.4~~ 5003.10.2.2.*

…

3005.4.1 Automatic sprinkler system. *Automatic sprinklers shall not be required to be installed in the elevator hoistway, elevator machine room, elevator machinery space, elevator control space, and elevator control room where all the following are met:*

1. Approved smoke detectors shall be installed and connected to the building fire alarm system in accordance with Section 907 in the area where the installation of fire sprinklers was exempted per this section.

2. Activation of any smoke detector located in the elevator hoistway, elevator machine room, elevator machinery space, elevator control space, and elevator control room shall cause the actuation of the building fire alarm notification appliances in accordance with Section 907.

3. Activation of any smoke detector located in the elevator hoistway, elevator machine room, elevator machinery space, elevator control space, and elevator control room shall cause all elevators having any equipment located in that elevator hoistway, elevator machine room, elevator machinery space, elevator

control space, and elevator control room to recall nonstop to the appropriate designated floor in accordance with CCR Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders.

4. The elevator machine room, elevator machinery space, elevator control space, and elevator control room shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section ~~712~~ 711, or both. The fire-resistance rating shall not be less than the required rating of the hoistway enclosure served by the machinery. Openings in the fire barriers shall be protected with assemblies having a fire protection rating not less than that required for the hoistway enclosure doors. The exceptions to Section 3005.4 shall not apply.

5. The building fire alarm system shall be monitored by an approved supervising station in accordance with Section 907.

6. No materials unrelated to the elevator equipment are permitted to be stored in the elevator machine rooms, machinery spaces, control rooms, control spaces, or elevators hoistways. An approved sign shall be permanently displayed in the area where the installation of fire sprinklers was exempted per this section in a conspicuous location with a minimum of 1½ inch letters on a contrasting background, stating:

NO COMBUSTIBLE STORAGE
PERMITTED IN THIS ROOM
By Order of the Fire Marshal [or name of fire authority]

…

…

3006.3 Hoistway opening protection. Where Section 3006.2 requires protection of the elevator hoistway door opening, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway shaft enclosure doors from each floor by fire partitions in accordance with Section 708. In addition, doors protecting openings in the elevator lobby enclosure walls shall comply with Section 716.2.2.1 as required for corridor walls. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1.

2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway shaft enclosure doors from each floor by smoke partitions in accordance with Section 710 where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition, doors protecting openings in the smoke partitions shall comply with Sections 710.5.2.2, 710.5.2.3 and 716.2.6.1. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1.

3. Additional doors shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such door shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.

4. The elevator hoistway shall be pressurized in accordance with Section 909.21.

~~4~~5. ~~The~~ *[SFM] When approved, in other than Group I-2 occupancies* elevator hoistway shall be pressurized in accordance with Section 909.21.

~~5~~6. *[SFM] Enclosed elevator lobbies are not required where the hoistway door has a fire-protection rating as required by Section 708.7 and the hoistway door opening is also protected by a listed and labeled smoke containment system complying with ICC ES AC 77.*

[Chapter 31.]

3111.1.1 Wind resistance. Rooftop-mounted photovoltaic panels and modules and solar thermal collectors shall be designed in accordance with Section 1609.

3111.1.2 Roof live load. Roof structures that provide support for solar energy systems shall be designed in accordance with Section 1607.13.5 and the *California Fire Code*.

~~**3111.1.1 Rooftop-mounted photovoltaic panels and modules.** Photovoltaic panels and modules installed on a roof or as an integral part of a roof assembly shall *also* comply with the requirements of Chapter 15 and the *California Fire Code*.~~

3111.2 Solar thermal systems. Solar thermal systems shall be designed and installed in accordance with Section 2606.12, the *California* Plumbing Code, the *California* Mechanical Code and the *California* Fire Code.

3111.2.1 Equipment. Solar thermal systems and components shall be listed and labeled in accordance with ICC 900/SRCC 300 and ICC 901/SRCC 100.

~~3111.2~~ **3111.3.4 Access and pathways.** Roof access, pathways, and spacing requirements shall be provided in accordance with the *California* Fire Code ~~*Sections 605.11.1 through 605.11.1.3.3*~~. *Pathways shall be located in areas with minimal obstructions such as vent pipes, conduit, or mechanical equipment.*

Exceptions:

1. Detached, nonhabitable Group U structures including, but not limited to, detached garages serving R-3 buildings, parking shade structures, carports, solar trellises and similar structures.

2. Roof access, pathways, and spacing requirements need not be provided where the fire code official has determined rooftop operations will not be employed.

3111.~~2.1~~3.4.1 Solar photovoltaic systems for Group R-3 buildings. *Solar photovoltaic systems for Group R-3 buildings shall comply with California Fire Code Sections 605.11.1.2.1 through 605.11.1.2.5.*

Exceptions:

1. These requirements shall not apply to structures designed and constructed in accordance with the California Residential Code.

2. These requirements shall not apply to roofs with slopes of 2 units vertical in 12 units horizontal (2:12) or less.

3111.~~2.2.6~~ 3.4.1.2 Locations of DC conductors. *Conduit, wiring systems, and raceways for photovoltaic circuits shall be located as close as possible to the ridge or hip or valley and from the hip or valley as directly as possible to an outside wall to reduce trip hazards and maximize ventilation opportunities. Conduit runs between sub arrays and to DC combiner boxes shall be installed in a manner that minimizes the total amount of conduit on the roof by taking the shortest path from the array to the DC combiner box. The DC combiner boxes shall be located such that conduit runs are minimized in the pathways between arrays. DC wiring shall be installed in metallic conduit or raceways when located within enclosed spaces in a building. Conduit shall run along the bottom of load bearing members.*

3111.2.~~3~~3.4.2 **Other than Group R-3 buildings.** Access to systems for *buildings* other than *those containing Group R-3 occupancies* shall be provided in accordance with Sections *3111.2.3.1* through *3111.2.3.*3.

Exception: Where it is determined by the *fire code official* that the roof configuration is similar to that of a *Group R-3 occupancy*, the residential access and ventilation requirements in Sections *3111.2.2.1* through *3111.2.2.5* shall be permitted to be used.

3111.2.3.1**3.4.2.1 Access.** There shall be a minimum 6-foot-wide (1829 mm) clear perimeter around the edges of the roof.

Exception: Where either axis of the building is 250 feet (76 200 mm) or less, *the clear perimeter around the edges of the roof* shall be a minimum 4-foot-wide (1290 mm).

3111.~~2.3.2~~3.4.2.2 Pathways. *The solar installation shall be designed to provide designated pathways. The pathways shall meet the following requirements:*

1. The pathway shall be over areas capable of supporting the live load of fire fighters accessing the roof.

2. The centerline axis pathways shall be provided in both axes of the roof. Centerline axis pathways shall run where the roof structure is capable of supporting the live load of fire fighters accessing the roof.

3. Shall be a straight line not less than 4 feet (1290 mm) clear to skylights or ventilation hatches.

4. Shall be a straight line not less than 4 feet (1290 mm) clear to roof standpipes.

5. Shall provide not less than 4 feet (1290 mm) clear around roof access hatch with at least one not less than 4 feet (1290 mm) clear pathway to parapet or roof edge.

3111.~~2.3.3~~3.4.2.3 Smoke ventilation. *The solar installation shall be designed to meet the following requirements:*

1. Arrays shall be no greater than 150 feet (45 720 mm) by 150 feet (45 720 mm) in distance in either axis in order to create opportunities for fire department smoke ventilation operations.

2. Smoke ventilation options between array sections shall be one of the following:

2.1. A pathway 8 feet (2438 mm) or greater in width.

2.2. A 4-foot (1290 mm) or greater in width pathway and bordering roof skylights or smoke and heat vents.

2.3. A 4-foot (1290 mm) or greater in width pathway and bordering 4-foot by 8-foot (1290 mm by 2438 mm) "venting cutouts" every 20 feet (6096 mm) on alternating sides of the pathway.

3111.~~2.3.4~~3.4.2.4 Locations of DC conductors. *Conduit, wiring systems, and raceways for photovoltaic circuits shall be located as close as possible to the ridge or hip or valley and from the hip or valley as directly as possible to an outside wall to reduce trip hazards and maximize ventilation opportunities. Conduit runs between sub arrays and to DC combiner boxes shall be installed in a manner that minimizes the total amount of conduit on the roof by taking the shortest path from the array to the DC combiner box. The DC combiner boxes shall be located such that conduit runs are minimized in the pathways between arrays. DC wiring shall be installed in metallic conduit or raceways when located within enclosed spaces in a building. Conduit shall run along the bottom of load bearing members.*

3111.3.5 Ground-mounted photovoltaic arrays. Ground-mounted photovoltaic ~~arrays~~ systems shall be designed and installed in accordance with Chapter 16 and the *California* Fire Code ~~comply with this section *and the California Electrical Code*~~. ~~Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. A clear, brush-free area of 10 feet (3048 mm) shall be required for ground mounted photovoltaic arrays.~~

3111.3.5.1 Fire separation distances. Ground-mounted photovoltaic systems shall be subject to the fire separation distance requirements determined by the local jurisdiction. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. *A clear, brush-free area of 10 feet (3048 mm) shall be required for ground mounted photovoltaic arrays.*

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 2. WUI Work Group
Chapter 7A [SFM] Materials and Construction for Exterior Wildfire Exposure

701A.3
702A Heavy Timber definition
704A.2
704A.3
704A.3.1
705A.2
707A.3
707A.8
707A.9
708A.2.3
708A.4
709A.4.2
709A.5
710A.2

…
701A.3

701A.3 Application. *New buildings located in any Fire Hazard Severity Zone or any Wildland-Urban Interface Fire Area designated by the enforcing agency constructed after the application date shall comply with the provisions of this chapter.*

Exceptions*:*

1. *Buildings of an accessory character classified as a Group U occupancy and not exceeding 120 square feet in floor area, when located at least 30 feet from an applicable building.*
2. *Buildings of an accessory character classified as Group U occupancy of any size located least 50 feet from an applicable building.*
3. *Buildings classified as a Group U Agricultural Building, as defined in Section 202 of this code (see also Appendix C – Group U Agricultural Buildings), when located at least 50 feet from an applicable building.*
4. *Additions to and remodels of buildings originally constructed prior to the applicable application date.*
5. *Group C, special buildings conforming to the limitations specified in Section 450.4.1.*

For the purposes of this section and 710A, applicable building includes all buildings that have residential, commercial, educational, institutional, or similar occupancy type use.

…
HEAVY TIMBER

702A

HEAVY TIMBER. *A type of construction classification specified in Section 602. For use in this chapter, heavy timber shall be sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Heavy Timber walls or floors shall be sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.*

…

704A.3 *Conditions of acceptance for ignition-resistant material tested in accordance with ASTM E84 or UL 723. A material shall comply with the conditions of acceptance in 1 and 2 below when the test is continued for an additional 20-minute period, meaning for a total test period of an "extended" 30 -minute test period.*

1. *The material shall exhibit a flame spread index not exceeding 25 and shall show no evidence of*

progressive combustion following the extended 30-minute test period.

2. The material shall exhibit a flame front that does not progress more than 10-1/2 feet (3200 mm) beyond the centerline of the burner at any time during the extended 30-minute test period.

704A.3.1

704A.3.1 *A material that exhibits a flame front that does not progress more than 10-1/2 feet (3200 mm) beyond the centerline of the burner at any time during the extended 30-minute test period shall be considered to show no evidence of progressive combustion following the extended 30-minute test period.*

...

705A.2

705A.2 (R337.5.2) Roof coverings*. Where the roof profile allows ~~a~~ an air space between the roof covering and roof decking, the ~~spaces~~ roof covering assembly shall be constructed to resist the intrusion of flames and embers, by complying with the following: ~~be firestopped with approved materials or have one layer of minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909 installed over the combustible decking~~.*

1. *The space at the eave ends shall be fire-stopped with materials that comply with a 1 hour T rating when tested in accordance with ASTM E814,*

2. *The roof covering assembly shall have one layer of minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet, or other materials, complying with ASTM D3909 installed over the combustible decking.*

...

707A.3

707A.3 Exterior walls. *The exterior wall covering or wall assembly shall comply with one of the following requirements:*

1. Noncombustible material

2. Ignition-resistant material

3. ~~Heavy timber exterior wall assembly~~ Sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.

4. Log wall construction assembly

5. Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1

Exception: *Any of the following shall be deemed to meet the assembly performance criteria and intent of this section:*

1. One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the exterior side of the framing

2. The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.

...

707A.8

707A.8 Underfloor protection. *The underfloor area of elevated or overhanging buildings shall be enclosed to grade in accordance with the requirements of this chapter or the underside of the exposed underfloor shall consist of one of*

the following:

1. Noncombustible material

2. Ignition-resistant material

3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection

4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual.

5. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in either of the following:
5.1. SFM Standard 12-7A-3; or
5.2. ASTM E2957

Exception: *~~Heavy timber~~ Structural columns and beams do not require protection when constructed with sawn lumber or glue-laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.*

707A.9

707A.9 Underside of appendages. *When required by the enforcing agency the underside of overhanging appendages shall be enclosed to grade in accordance with the requirements of this chapter or the underside of the exposed underfloor shall consist of one of the following:*

1. Noncombustible material

2. Ignition-resistant material

3. One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the floor projection

4. The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the floor including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual

5. The underside of a floor assembly that meets the performance criteria in accordance with the test procedures set forth in either of the following:
5.1. SFM Standard 12-7A-3; or
5.2. ASTM E2957

Exception: *~~Heavy timber~~ Structural columns and beams do not require protection when constructed with sawn lumber or glue-laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.*

…

708A.2.3

708A.2.3 Operable Skylights. *Operable skylights shall be prohibited.*

Exceptions:

1. *The skylight shall comply with the requirements of the ember penetration standard ASTM E2886/E2886M when the skylight is in the open position.*

OR

2. *The skylight shall automatically close when triggered by criteria, including a combination of high winds and temperature or high winds and low relative humidity, as approved by the authority having jurisdiction*

…

708A.4

708A.4 (R337.8.4) Garage Door Perimeter Gap ~~Weather stripping~~. *Exterior garage doors shall ~~be provided with weather stripping to~~ resist the intrusion of embers from entering by preventing visible ~~through~~ gaps between doors and door openings, at the bottom, sides and tops of doors, from exceeding ~~gabs exceed~~ 1/8-inch (3.2 mm). ~~Weather stripping or seals shall be installed on the bottom, sides, and tops of doors to reduce gaps between doors and door openings to 1/8-inch (3.2 mm) or less.~~ Gaps between doors and door openings shall be controlled by at least one of the following methods:*

1. *Weather stripping products made of materials that: (a) have been tested for tensile strength in accordance with ASTM D638 (Standard Test Method for Tensile Properties of Plastics) after exposure to ASTM G155 (Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials) for a period of 2000 hours, where the maximum allowable difference in tensile strength values between exposed and non-exposed samples does not exceed 10% , and (b) exhibit a V-2 or better flammability rating when tested to UL 94, Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances.*

2. *Door overlaps onto jambs and headers.*

3. *Garage door jambs and headers covered with metal flashing.*

…

709A.4.2

709A.4.2 *Conditions of acceptance for ASTM E2726: The ASTM E2726 test shall be conducted, using a 2.2lb (1kg) burning "Class A" size 12" x 12" x 2.25" (300 mm x 300 mm x 57 mm) roof test brand, on a minimum of three test specimens and the conditions of acceptance in 1 and 2 below shall be met. If any one of the three tests do~~es~~ not meet the conditions of acceptance, three additional tests shall be run. All of the additional tests shall meet the conditions of acceptance.*

1. Absence of sustained flaming or glowing combustion of any kind at the conclusion of the 40- min observation period

2. Absence of falling particles that are still burning when reaching the burner or floor.

…

709A.5

709A.5 *Requirements for type of ~~ignition-resistant~~ material in Section 709A.3, item (7): The material shall be tested in accordance with ASTM E2632 and shall comply with the following condition of acceptance. The ASTM E2632 test shall be conducted on a minimum of three test specimens and the peak heat release rate shall be less than or equal to 25 kW/ft^2 (269 kW/m^2). If any one of the three tests do~~es~~ not meet the conditions of acceptance, three additional tests shall be run. All ~~of~~ the additional tests shall meet the condition of acceptance.*

…

710A.2

710A.2 Applicability. *The provisions of this section shall apply to buildings covered by Section 701A.3 Exception 1. This section shall also apply to specified attached and detached miscellaneous structures that require a building permit, including but not limited to; trellises, arbors, patio covers, ~~carports~~, gazebos, and*

similar structures.

Exceptions.

1. *Decks shall comply with the requirements of Section 709A.*
2. *Awnings and canopies shall comply with the requirements of Section 3105.*
3. *Exterior wall architectural trim, embellishments, and fascia~~s~~.*
4. ~~*Roof or wall top cornice projections and similar assemblies.*~~

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 3. I-3 Work Group

…

508.3.3

508.3.3 Separation. No separation is required between nonseparated occupancies.

Exceptions:

1. Group H-2, H-3, H-4, H-5, *I-2, I-2.1, and L* occupancies shall be separated from all other occupancies in accordance with Section 508.4.
2. Group R-1, R-2, *R-2.1* and R-3 dwelling units and sleeping units shall be separated from other dwelling or sleeping units and from other occupancies contiguous to them in accordance with the requirements of Section 420.

~~*3. No separation is required between Group B, E, R-2 sleeping units and S-2 occupancies accessory to Group I-3 of Type I Construction. Group I-3 and vehicle sally ports shall be separated from all other occupancies in accordance with Section 508.4.*~~

3. *Separation is required between Group I-3 and enclosed vehicle sally ports.*
4. *Where I-3 is not the main occupancy and the area is greater than 10 percent of the floor area; it shall be separated per table 508.4*

…

Table 509

TABLE 509
INCIDENTAL USES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic sprinkler system [a]

Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic sprinkler system *a*
Refrigerant machinery rooms	1 hour or provide automatic sprinkler system *a*
Hydrogen fuel gas rooms, not classified as Group H	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.
Incinerator rooms	2 hours and automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic fire-extinguishing system
In Group E occupancies, laboratories and vocational shops not classified as Group H	1 hour or provide automatic sprinkler system
In Group I-2 *and I-2.1* occupancies, laboratories not classified as Group H	1 hour and provide automatic sprinkler system *a*
[SFM] Rooms or areas with special hazards such as laboratories, vocational shops and other such areas not classified as Group H, located in Group E occupancies where hazardous materials in quantities not exceeding the maximum allowable quantity are used or stored.	*1 hour*
In ambulatory care facilities, laboratories not classified as Group H	1 hour and provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system *a*
In Group I-2, laundry rooms over 100 square feet	1 hour
Group I-3 cells and Group I-2 *and I-2.1* patient rooms equipped with padded surfaces	1 hour *or non-combustible construction and provide automatic sprinkler system* [a]
In Group I-2, physical plant maintenance shops	1 hour
In ambulatory care facilities or Group I-2 *and I-2.1* occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater	1 hour [a]
In other than ambulatory care facilities and Group I-2 *and I-2.1* occupancies, waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
In ambulatory care facilities or Group I-2 occupancies, storage rooms greater than 100 square feet	1 hour
Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power or uninterruptable power supplies	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies*a*

For SI: 1 square foot = 0.0929 m2, 1 pound per square inch (psi) = 6.9 kPa, 1 British thermal unit (Btu) per hour = 0.293 watts, 1 horsepower = 746 watts, 1 gallon = 3.785 L

a. [SFM] Fire barrier protection and automatic sprinkler protection required throughout the fire area in I-2 and I-2.1 occupancies as indicated.

…

716.2.2.1

716.2.2.1 Door assemblies in corridors and smoke barriers. Fire door assemblies required to have a minimum fire protection rating of 20 minutes where located in corridor walls or smoke barrier walls having a fire-resistance rating in accordance with Table 716.1 (2) shall be tested in accordance with NFPA 252 or UL 10C without the hose stream test.

Exceptions:

1. Viewports that require a hole not larger than 1 inch (25 mm) in diameter through the door, have at least a 0.25-inch-thick (6.4 mm) glass disc and the holder is of metal that will not melt out where subject to temperatures of 1,700°F (927°C).

2. Corridor door assemblies in occupancies of Group I-2 shall be in accordance with Section 407.3.1.

3. Unprotected openings shall be permitted for corridors in multi-theater complexes where each motion picture auditorium has not fewer than one-half of its required exit or exit access doorways opening directly to the exterior or into an exit passageway.

4. Horizontal sliding doors in smoke barriers that comply with Sections 408.6 and 408.8.4 in occupancies in Group I-3.

5. Cell or room doors, including cell or room doors with integral sidelites that have speaker ports and /or cuff ports that are part of the door assembly in Group I-3 occupancies which open into a required exit corridor within a cell complex, medical and mental health suite, program offices, family visiting area and complex control areas.

…

804.4.1

804.4.1 Test requirement. In all ~~*other*~~ occupancies ~~*except Group I-3 and Group I-2 areas where patients are restrained*~~, interior floor *finish and interior floor* covering materials shall comply with the requirements of *ASTM Standard E 648, and having a specific optical density smoke rating not to exceed 450 per ASTM E662. For Group I-3 occupancies and Group I-2 areas where patients are restrained, see Section 804.4.3.*

804.4.2

804.4.2 Minimum critical radiant flux. In all occupancies, interior floor finish and floor covering materials in enclosures for stairways and ramps, exit passageways, corridors and rooms or spaces not separated from corridors by partitions extending from the floor to the underside of the ceiling shall withstand a minimum critical radiant flux. The minimum critical radiant flux shall be not less than Class I in Groups I-2*, I-3 areas where restraint is not used and R-2.1* and not less than Class II in Groups A, B, E, H, *I-2.1,* I- 4, M, R-1, R-2, *R-2.2* and S.

Exception: Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, Class II materials are permitted in any area where Class I materials are required, and materials complying with *ASTM Standard E648, and having a specific optical density smoke rating not to exceed 450 per ASTM E662 are permitted in any area where Class II materials are required.*

For Group I-3 areas occupied by inmates or Group I-2 areas where patients are restrained, see Section 804.4.3.

804.4.3

804.4.3 Group I-2 and Group I-3 floor surfaces. *Interior floor finish and floor coverings occupied by inmates or patients whose personal liberties are restrained shall be noncombustible.*

Exception: *~~Noncombustible floor finish and floor coverings in areas where restraint is not used may have c~~ Carpet or other floor covering materials ~~applied~~ may be used in areas protected by an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1. ~~and~~ Carpet or other floor coverings shall comply with the requirements of ~~meeting~~ ASTM Standard E648; the minimum critical radiant flux shall be not less than Class I and ~~shall having a~~ the specific optical density smoke rating shall not ~~to~~ exceed 450 per ASTM E662. ~~The c~~ Carpeting and carpet padding shall be tested as a unit in accordance with floor covering radiant panel test meeting class 1 and has a critical radiant flux limit of not less than 0.45 watt per centimeter square. The carpeting and padding shall be identified by a hang-tag or other suitable method as to manufacturer and style and shall indicate the classification of the material based on the limits set forth above.*

…

905.3.10

905.3.10 Group 1-3. *A Housing ~~units~~ Pod within ~~cell complexes~~ Housing Units where 50 or more inmates*

are restrained, shall be provided with Class I wet standpipes. In addition, Class I wet standpipes shall he located so that it will not be necessary to extend hose lines through interlocking security doors and any doors in smoke-barrier walls, horizontal fire walls or fire barrier walls. Standpipes located in ~~cell complexes~~ Housing Units may be placed in secured pipe chases.

…

Table 1004.1.2

Table 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR
Detention Facilities [c, e]	
Housing Pod	*Number of beds [d]*
Exercise rooms or exercise areas	*50 net*
Dining areas	*15 net*
Instructional classroom	*20 net*
Dayroom not associated with Housing Pods	*35 net*

c. Where the path of egress travel from cell tiers or housing areas pass through adjacent dayrooms, the cumulative occupant loads shall be based on the number of beds or occupants in cells; the area of dayrooms accessory to cell tiers or housing areas shall not count towards cumulative occupancy of the housing pod.
d. Based on sum of the maximum number of beds in housing pods (not dayroom area) and supervising staff.
e. Temporary holding cells, rooms or areas shall be calculated based policies and procedures and approved by the Authority Having Jurisdiction.

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 4. L Work Group

…

LABORATORY SUITE

202

LABORATORY SUITE. [SFM] *A laboratory suite is a Group L Occupancy space within a building or structure, which may include multiple laboratories, offices, storage, equipment rooms or similar support functions, where the aggregate quantities of hazardous materials stored and used do not exceed the quantities set forth in Table 453.7.3.1 (see Section 453).*

…

302.1

302.1 General.

9. ***[SFM]*** *~~Research Laboratories~~ Laboratory Suites (see Section 453): Group L*

…

307.1.1

307.1.1 Uses other than Group H.

~~15~~ 17. [SFM] Group L occupancies defined in Section 453.~~1~~

TABLE 307.1(1)

TABLE 307.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD
[Table not shown]
…
d. [SFM] In other than Group L occupancies, maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively. For Group L Occupancies, refer to Table 453.7.3.1 for approved cabinets.

TABLE 307.1(2)

TABLE 307.1(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD
(footnote in the table)
d. [SFM] In other than Group L occupancies, maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively. For Group L Occupancies, refer to Table 453.7.3.1 for approved cabinets.

…

313.1

313.1 Group L* Laboratories ~~*Group L.*~~ *[SFM] *Group L occupancy includes the use of a building or structure, or a portion thereof, containing one or more laboratory suites as defined in Section 453.*

…

414.1.1

414.1.1 Other provisions. Buildings and structures with an occupancy in Group H shall comply with this section and the applicable provisions of Section 415 and the *California Fire Code*. ~~For Group L occupancies see Section 453.~~ *See Section 453 for Group L occupancies.*

…

453.1

453.1 Scope. *The provisions of this section shall apply to buildings or structures, or portions thereof, containing one or more Group L laboratory suites as defined in Section ~~453.2~~202.*
The provision of this section is optional and may apply to buildings or structures. See Section 304 for Group B Laboratories.

453.3.1

453.3.1 *The gross ~~square footage~~ floor area of an individual laboratory suite shall not exceed 10,000 sq. ft. (929 m2).*

453.3.2

453.3.2 *An individual laboratory suite shall not serve more than a single tenant.*

Exception: *~~A laboratory suite controlled by a single responsible party.~~ An individual laboratory suite shall have a responsible party or department for all hazardous materials within a suite.*

453.4.2

453.4.2 ~~Structural design occupancy category.~~

453.4.2.1

~~453.4.2.1~~ *~~Buildings containing Group L occupancies with an occupant load greater than 500 for colleges or adult education facilities, or other buildings with an occupant load greater than 5,000 shall be classified as Occupancy Category III in accordance with Chapters 16 and 16A.~~*

453.4.2.2

~~453.4.2.2~~ *~~Other buildings containing Group L occupancies shall be classified as Occupancy Category II in accordance with Chapters 16 and 16A.~~*

453.4.3.1

453.4.3.1 Fire barrier. *A fire barrier having a fire resistance rating of not less than 2-hours shall divide any story containing more than one laboratory suite ~~above the~~ on the 4th story and above.*

453.4.3.2

453.4.3.2 Fire-smoke barrier. *Any story containing a Group L occupancy ~~above the 10th story~~ on the 11th story and above shall be subdivided by a fire-smoke barrier constructed as a fire barrier having a fire resistance rating of not less than 2-hours and shall also comply with the smoke barrier requirements of Section 709.*

The 2-hour fire- smoke barrier shall be in accordance with Sections 453.4.3 through 453.4.3.2.3.

453.4.4

***453.4.4 Emergency response equipment area. When required by the fire code official, an~~An~~ area for emergency response equipment shall be provided on each floor in an approved location. The area shall be a minimum of 50 square feet (4.6 m2), in a location approved by the fire code official, ~~accessed from outside the laboratory suite~~ and identified with signage.*

453.4.5

453.4.5 Liquid tight floor. *All portions of the laboratory suite where hazardous materials may be ~~present~~ stored, dispensed, handled or used shall be provided with a liquid tight floor. The intersections of such floors shall have an integral coved base that extends upward onto the wall not less than 2 inches. Where the floor is designed to provide spill control or secondary containment the floor shall be designed in accordance with California Fire Code Section 5004.2.*

453.4.6

453.4.6 ~~Emergency~~ Secondary power systems*. A legally required standby power system shall have a automatic transfer time of not more than 10 seconds. ~~An emergency power system shall be provided in accordance with Chapter 27.~~*

453.4.6.1

453.4.6.1 Required systems. *~~Emergency~~ Standby power shall be provided for all electrically operated equipment, systems and connected control circuits including:*

1. Mechanical ventilation systems. See Section 453.4.7.2.

~~2. Emergency alarm and monitoring systems.~~

~~3~~2. Temperature control systems required to prevent unsafe process excursions or chemical reactions.

~~4~~3. Treatment systems and scrubbers.

~~5. Egress lighting~~

4. Emergency Responder Radio Coverage System (ERRCS). See Section 510 of the California Fire Code.

~~6~~5. Electrically operated systems required elsewhere in this code and the California Fire Code.

453.4.7.2

453.4.7.2 Fire dampers, smoke dampers and combination fire/smoke dampers. *Fire dampers, smoke dampers or fire/smoke dampers shall not be permitted in ~~product conveying and other~~ mechanical exhaust duct systems used to maintain a safe laboratory environment. When the exhaust duct penetrates the laboratory suite boundary the exhaust duct shall be located within a horizontal assembly having a fire resistance rating equal to the fire barrier.*

453.4.7.3

453.4.7.3 ~~Duct materials.~~ *~~Product conveying and other mechanical exhaust duct systems used to maintain a safe laboratory environment shall be constructed in accordance with Chapters 5 and 6 of the California Mechanical Code.~~*

453.4.7.4.2

453.4.7.4.2 *Laboratory suite exhaust air shall be independently ducted to a point outside the building or ~~a~~ an approved roof top structure.*

Exceptions:

~~1. Exhaust ducts serving a single laboratory suite.~~

~~2~~1. Exhaust ducts serving separate laboratory suites ~~on the same story~~ may be connected to a common duct within a fire rated vertical shaft when the sub-duct extends vertically upward at least 22 inches.

~~3. Exhaust ducts serving separate laboratory suites on the basement through the 4th story may be connected to a common duct within a fire rated vertical shaft when the sub-duct extends vertically upward at least 22 inches.~~

~~4. Exhaust ducts serving separate laboratory suites on the 5th story and above may be connected to a common duct that does not exceed 100 vertical feet within a fire rated vertical shaft when the sub-ducts extends vertically upward at least 22 inches. Ducts serving the 5th story and above shall be separate from the duct serving the 4th story and below, but may be within the same fire rated shaft.~~

453.4.7.4.3

453.4.7.4.3 *Laboratory suite exhaust ducts shall not penetrate the ~~2-hour~~ fire barriers required by Section ~~453.4.3~~ 453.4.1.*

Exception: *Where the exhaust duct is enclosed in a ~~2-hour~~ rated shaft in accordance with Section ~~708~~713.*

453.4.7.5

453.4.7.5 Ventilation rates. *Mechanical exhaust ventilation systems shall provide a minimum ventilation rate not less than 1 cubic feet per minute per square foot [0.00508 m3/(s·m2)] of floor area, or 6 air exchanges per hour, whichever is greater. Systems shall operate continuously at the designed ventilation rate.*

Exception:
1. Refer to California Fire Code Section 5001.3 Performance-based design alternatives, as approved by the Fire Code Official.

453.4.7.6

453.4.7.6 ~~Mechanical ventilation systems on emergency power.~~ *~~When operating on emergency power, the ventilation rate may be reduced to a level sufficient to maintain a differential pressure negative to the surrounding area.~~*

453.4.7.7

453.4.7.7 Mechanical ventilation system balancing. *Mechanical ventilation systems shall be designed and balanced such that during normal and emergency conditions the door opening forces comply with the requirements of Sections ~~1008.1.3~~1010.1.3 and Chapter 11B as applicable. Emergency conditions shall include: supply fan shutdown or failure, closing of smoke dampers or combination fire/smoke dampers, or emergency power.*

453.6.1

453.6.1 Access to exits. *Every ~~portion~~ room of a laboratory suite containing hazardous materials and having a floor area of 500 square feet (19 m²) or more shall have access to not less than two separate exits or exit-access doorways in accordance with Section ~~1015.2~~ 1006.2.*

453.6.5

453.6.5 ~~Corridors.~~ *~~Corridors shall comply with Section 1018 and shall have opening protection in accordance with Tables 716.5 and 716.6.~~*

453.7.1

~~453.7.1~~ 453.1.1 Technical report. …

453.7.2

453.7.~~2~~1 Multiple hazards. *When a hazardous material has multiple hazards, all hazards shall be*

addressed and controlled in accordance with the provisions of this code and the California Fire Code.

453.7.3.1

453.7.~~3~~2 Percentage of maximum allowable quantities. *The percentage of the maximum allowable quantity of hazardous materials per laboratory suite permitted for each story level within a building shall be in accordance with Table 453.7.~~3~~2.1.*

TABLE 453.7.~~3~~2.1
HAZARDOUS MATERIALS QUANTITY PER LABORATORY SUITE e
[Table not shown]

a. Percentages shall be of the maximum allowable quantity per laboratory suite shown in Tables 307.1(1) and 307.1(2). Allowable hazardous material increases for buildings equipped throughout with an automatic sprinkler system shall not be applicable to Group L occupancies.
b. When an individual laboratory suite occupies more than one story, the more restrictive percentage of the maximum allowable quantity per laboratory suite shall apply.
c. The total aggregate quantity of flammable liquids on the first story below grade shall be limited to the maximum total aggregate quantity for Group B occupancy control areas.
d. The total aggregate quantity of flammable liquids on the second story level below grade shall be limited to a maximum total aggregate quantity for Group B occupancy control areas.
e. Maximum allowable quantities shall be increased 100 percent when stored in approved cabinets [see California Fire Code].

453.7.4

453.7.4~~3~~ Handling and transportation. *The handling and transportation of hazardous materials shall be in accordance with Section 5003.10 of the California Fire Code.*

453.7.5

~~453.7.5 Transportation of hazardous materials above the 10th story.~~ *~~Transportation of hazardous materials above the 10th story shall be limited to 5 percent of the maximum allowable quantities of Tables 307.1 (1) and 307.1(2.) Quantities are permitted to be increased 100 percent in buildings with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Materials where footnote g of Table 307.1(1) applies shall not be increased.~~*

453.8

453.8 Elevators and elevator lobbies on the 11th story and above ~~above the 10th story~~. *Any story containing a Group L occupancy on the 11th ~~above the 10th~~ story and above shall be provided with elevators and elevator lobbies in accordance with Sections 453.8.1 through 453.8.3.*

453.9

453.9 Existing Group L ~~(Formerly~~ or Group H-8~~)~~ occupancies, additions, alterations, or repairs. *See California Fire Code ~~Chapter11~~ Section 1116 and California Existing Building Code Section 316.*

…

TABLE 504.3 [a, i]

TABLE 504.3 [a, i]

ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

[Table not shown]

…

c. New Group H *and all Group L* occupancies are required to be protected by an automatic sprinkler system in accordance with Sections 903.2.5 and 903.2.16

d. The NS value is only for use in evaluation of existing building height in accordance with the California Existing Building Code.

…

TABLE 506.2[a, b, i]

TABLE 506.2[a, b, i]

ALLOWABLE AREA FACTOR (At = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

…

L	NS[c]	*UL*	*60,000*	*37,500*	*17,500*	*28,500*	*17,500*	*36,000*	*18,000*	*6,500*
	S1									
	SM									
M	NS	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	61,500	42,00	27,000

…

c. New Group H *and all Group L* occupancies are required to be protected by an automatic sprinkler system in accordance with Sections 903.2.5 and 903.2.16

d. The NS value is only for use in evaluation of existing building height in accordance with the California Existing Building Code.

TABLE 803.11

TABLE 803.11

INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY [k]

	SPRINKLERED[l]			**NONSPRINKLERED**		
GROUP	**Interior exit stairways and interior exit ramps and exit passageways** [a, b]	**Corridors and enclosure for exit access stairways and exit access ramps**	**Rooms and enclosed spaces** [c]	**Interior exit stairways and interior exit ramps and exit passageways** [a, b]	**Corridors and enclosure for exit access stairways and exit access ramps**	**Rooms and enclosed spaces** [c]
A-1 & A-2	B	B	C	A	A[d]	B[e]
A-3[f], A-4, A-5	B	B	C	A	A[d]	C
B, E, M, R-1	B	C	C	A	B	C
R-4[m]	B	C	C	A	B	B

F	C	C	C	B	C	C
H, *L*	B	B	C[g]	NP	NP	NP
~~I-1~~	~~B~~	~~C~~	~~C~~	~~A~~	~~B~~	~~B~~
I-2, *I-2.1*	B	B	B[h, i]	A	A	B
I-3	A	A[j]	~~C~~ *B*	*NP*	*NP*	*NP*
I-4	B	B	B[h, i]	A	A	B
R-2	C	C	C	B	B	C
R-2.1	*B*	*C*	*C*	*A*	*B*	*B*
R-3[m], *R-3.1*	C	C	C	C	C	C
S	C	C	C	B	B	C
U	No restrictions			No restrictions		

…

903.2.16

903.2.16 Group L occupancies. *An automatic sprinkler system shall be installed throughout buildings housing Group L occupancies. Sprinkler system*s *~~design~~ for ~~research laboratories and similar areas of a~~ Group L occupancy shall be designed for the square footage area of the L Occupancy based on an area of sprinkler operation of 2,500 square feet (232 m^2) and design density of 0.20 gpm/sf. ~~not be less than that required for Ordinary Hazard Group 2 with a design area of not less than 3,000 square feet (279 m2).~~*

In mixed occupancies, portions of floors ~~or buildings not classified as~~ with Group L occupancies, but not classified as Group L, shall be provided with sprinkler protection system per NFPA 13. ~~designed of not less than that required for Ordinary Hazard Group 1 with a design area of not less than 3,000 square feet (279 m2).~~

903.2.16.1

903.2.16.1 Group L occupancies located ~~above the 10th story~~ on the 11th story and above. *The automatic sprinkler system shall be designed and zoned to provide separate indication upon water-flow for each side of the 2-hour fire-smoke barrier ~~above the 10th story~~ on the 11th story and above.*

903.2.5.4

903.2.5.4 Group H occupancies located ~~above the 10th story~~ on the 11th story and above. *The fire sprinkler system shall be designed and zoned to provide separate indication upon water-flow for each side of the 2-hour fire-smoke barrier ~~above the 10th story~~ on the 11th story and above.*

907.2.28

907.2.28 Group L. *A manual fire alarm system shall be installed throughout buildings ~~containing~~ having Group L occupancies.*

When Group L occupancies are located in mixed use buildings, at least one manual fire alarm box shall be

located within the Group L occupancy.

907.2.28.1

907.2.28.1 Group L occupancies located ~~above the 10th story~~ on the 11th story and above. *Manual fire alarm boxes shall be required on each side of the 2-hour fire-smoke barrier and at each exit ~~above the 10th story~~ on the 11th story and above.*

907.6.4

907.6.4 Zones. *Fire alarm systems shall be divided into zones where required by this section. For the purposes of annunciation and notification, zoning shall be in accordance with the following:*

1. Where the fire-protective signaling, system serves more than one building, each building shall be considered as a separate zone.

2. Each floor of a building shall be considered as a separate zone.

3. Each section of floor of a building that is separated by fire walls or by horizontal exits shall be considered as a separate zone.

4. Each zone shall not exceed 22,500 square feet (2090 m2). The length of any zone shall not exceed 300 feet (91 440 mm) in any direction.

Exception: Automatic sprinkler system zones shall not exceed the area permitted by NFPA 13.

5. For Group I-3 occupancies each cell complex shall be considered a separate zone.

6. For Group H and L occupancies ~~above the 10th story~~ on the 11th story and above, each side of the 2-hour fire-smoke barrier shall be considered a separate zone.

7. Annunciation shall be further divided into zones where deemed necessary by the enforcing agency.

TABLE 1004.1.2

TABLE 1004.1.2

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

Laboratory	
Educational (K-12)	*50 net*
Laboratories, non-educational	*100 net*
Laboratory suite [b]	*200 gross*

…

1006.2.1

1006.2.1

SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

…

L	*See Section 453.6.1*	NP	NP	NP

…

TABLE 1006.3.3(2)

TABLE 1006.3.3(2) **e**
STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)
First story above or below grade plane	A, B [b], E F [b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2 [a, c]	10	75
	S[b, d]	29	75
Second story above grade plane	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.
NP = Not Permitted.
NA = Not Applicable.
a. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided
with emergency escape and rescue openings in accordance with Section 1030.
b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a
maximum exit access travel distance of 100 feet.
c. This table is used for R-2 occupancies consisting of sleeping units. For R-2 occupancies consisting of dwelling units, use Table 1006.3.3(1).
d. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.
e. For L Occupancies see Section 453.6.1.

…

2702.2.17

2702.2.17 *Group L-Occupancy.* ~~*Emergency*~~ *Secondary power shall be provided in Group L occupancies in accordance with this chapter and Section 453.4.6 and 453.4.6.1.*

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 5. Higher Education Laboratories

[Note: Remove Section 428]

~~**SECTION 428**~~
~~**HIGHER EDUCATION LABORATORIES**~~

~~**[F] 428.1 Scope.** Higher education laboratories complying with the requirements of Sections 428.1 through 428.4 shall be permitted to exceed the maximum allowable quantities of hazardous materials in control areas set forth in Tables 307.1(1) and 307.1(2) without requiring classification as a Group H occupancy. Except as specified in Section 428, such laboratories shall comply with all applicable provisions of this code and the International Fire Code.~~

~~**[F] 428.2 Application.** The provisions of Section 428 shall be applied as exceptions or additions to applicable requirements of this code. Unless specifically modified by Section 428, the storage, use and handling of hazardous materials shall comply with all other provisions in Chapters 38 and 50 through 67 of the International Fire Code and this code for quantities not exceeding the maximum allowable quantity.~~

~~**[F] 428.3 Laboratory suite construction.** Where laboratory suites are provided, they shall be constructed in accordance with this section and Chapter 38 of the International Fire Code. The number of laboratory suites and percentage of maximum allowable quantities of hazardous materials in laboratory suites shall be in accordance with Table 428.3.~~

~~**[F] 428.3.1 Separation from other nonlaboratory areas.** Laboratory suites shall be separated from other portions of the building in accordance with the most restrictive of the following:~~
~~1. Fire barriers and horizontal assemblies as required in Table 428.3. Fire barriers shall be constructed in accordance with Section 707 and horizontal assemblies constructed in accordance with Section 711.~~
~~**Exception:** Where an individual laboratory suite occupies more than one story, the fire-resistance rating of intermediate floors contained within the laboratory suite shall comply with the requirements of this code.~~
~~2. Separations as required by Section 508.~~

~~**[F] 428.3.2 Separation from other laboratory suites.** Laboratory suites shall be separated from other laboratory suites in accordance with Table 428.3.~~

~~**[F] 428.3.3 Floor assembly fire resistance.** The floor assembly supporting laboratory suites and the construction supporting the floor of laboratory suites shall have a fire-resistance rating of not less than 2 hours.~~

~~**Exception:** The floor assembly of the laboratory suites and the construction supporting the floor of the laboratory suites are allowed to be 1-hour fire-resistance rated in buildings of Types IIA, IIIA and VA construction, provided that the building is three or fewer stories.~~

~~**[F] 428.3.4 Maximum number.** The maximum number of laboratory suites shall be in accordance with Table 428.3. Where a building contains both laboratory suites and control areas, the total number of laboratory suites and control areas within a building shall not exceed the maximum number of laboratory suites in accordance with Table 428.3.~~

~~**[F] 428.3.5 Means of egress.** Means of egress shall be in accordance with Chapter 10.~~

~~**[F] 428.3.6 Standby or emergency power.** Standby or emergency power shall be provided in accordance with Section 414.5.2 where laboratory suites are located above the sixth story above grade plane or located in a story below grade plane.~~

~~**[F] TABLE 428.3**~~
~~**DESIGN AND NUMBER OF LABORATORY SUITES PER FLOOR**~~
~~a. Percentages shall be of the maximum allowable quantity per control area shown in Tables 307.1(1) and 307.1(2), with all increases allowed in the footnotes to those tables.~~
~~b. Fire barriers shall include walls, floors and ceilings necessary to provide separation from other portions of the building.~~
~~c. Vertical fire barriers separating laboratory suites from other spaces on the same floor shall be permitted to be 1-hour fire-resistance rated.~~

~~**[F] 428.3.7 Ventilation.** Ventilation shall be in accordance with Chapter 7 of NFPA 45, and the International Mechanical Code.~~

~~**[F] 428.3.8 Liquid-tight floor.** Portions of laboratory suites where hazardous materials are present shall be provided with a liquid-tight floor.~~

~~**[F] 428.3.9 Automatic fire-extinguishing systems.**~~
~~Buildings containing laboratory suites shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.~~

~~**[F] 428.4 Percentage of maximum allowable quantity in each laboratory suite.** The percentage of maximum allowable quantities of hazardous materials in each laboratory suite shall be in accordance with Table 428.3.~~

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 6. R-2.2

Chapter 2 Definitions:

Community Correctional Reentry Centers - California Department of Corrections and Rehabilitation (CDCR) - *community-located facilities that provide housing and transitional rehabilitative or community-based programing services for ambulatory inmates. CDCR Program services assist with substance use disorder treatment, employment, education, family reunification, and social support. Program participants remain under the jurisdiction of CDCR, are monitored by CDCR staff and supervised by CDCR approved/contracted program providers 24/7. The facilities include residential living, food services, administrative and program functional spaces in a non-licensed 24 hr. facility.*

…

310.3.2

310.3.2 Residential Group R-2.2 (CDCR Only). Residential occupancies *operated by CDCR in a community located facility that provides housing and community based program services for non-transient ambulatory participants in a non-licensed facility with 24/7 supervision*.
Community Correctional Reentry Centers.

…

310.4

310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, *R-2.2,* R-4 or I, including:

Buildings that do not contain more than two *dwelling units* Care facilities that provide accommodations for five or fewer persons receiving care

Congregate living facilities (non-transient) with 16 or fewer occupants

Boarding houses (non-transient)

Convents

Dormitories

Fraternities and sororities

Monasteries

Congregate living facilities (*transient*) with 10 or fewer occupants

Boarding houses (transient)

Lodging houses (*transient*) with five or fewer *guest rooms* and 10 or fewer occupants

…

SECTION 420
GROUPS R-1, R-2, *R-2.1*, *R-2.2*, R-3, *R-3.1* and R-4

420.1

420.1 General. Occupancies in Groups ~~I-1~~, R-1, R-2, *R-2.2,* R-3, *R-3.1* and R-4 shall comply with the provisions of Sections 420.1through 420.10 and other applicable provisions of this code.

…

420.4

420.4 Automatic sprinkler system. Group R occupancies shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.8. *Group R-2.2 shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.* ~~Group I-1~~ *Group R- 2.1* occupancies shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.6. Quick response or residential automatic sprinklers shall be installed in accordance with Section 903.3.2.

420.5

420.5 Fire alarm systems and smoke alarms. Fire alarm systems and smoke alarms shall be provided in Group ~~I-1~~, R- 1 and R-2, *R-2.1 and R-4* occupancies in accordance with Sections ~~907.2.6,~~ 907.2.8, ~~and~~ 907.2.9 *and 907.2.10*, respectively. Single- or multiple-station smoke alarms shall be provided in Groups ~~I-1~~, R-2, *R-2.1*, R-3 and R-4 in accordance with Section 907.2.10. *Group R-2.2 shall be equipped throughout with an automatic fire alarm systems per 907.2.9.2 and shall have a manual fire alarm pull station at the 24-hour staff watch office.*

420.6

420.4~~6~~ Smoke barriers in Group *R-2.1*. Smoke barriers shall be provided in Group *R-2.1*, to subdivide every story used by persons receiving care, treatment or sleeping and to provide other stories with an occupant load of 50 or more persons, into no fewer than two smoke compartments. Such stories shall be divided into smoke compartments with an area of not more than 22,500 square feet (2092 m2) and the distance of travel from any point in a smoke compartment to a smoke barrier door shall not exceed 200 feet (60 960 mm). The smoke barrier shall be in accordance with Section 709.

420.6.1 Smoke barrier in Group R-2.2. *Occupancies in Group R-2.2 shall have smoke barriers complying*

with Sections 709 to divide every story occupied by residents for sleeping, into no fewer than two smoke compartments.

Exception: *Spaces having a direct exit to a public way*

~~**420.6.1**~~ ***420.6.2*** **Refuge area.** Refuge areas shall be provided within each smoke compartment. The size of the refuge area shall accommodate the occupants and care recipients from the adjoining smoke compartment. Where a smoke compartment is adjoined by two or more smoke compartments, the minimum area of the refuge area shall accommodate the largest occupant load of the adjoining compartments. The size of the refuge area shall provide the following:

1. Not less than 15 net square feet (1.4 m2) for each care recipient.

2. Not less than 6 net square feet (0.56 m2) for other occupants.

Areas or spaces permitted to be included in the calculation of the refuge area are corridors, lounge or dining areas and other low-hazard areas.

420.11

420.11 Electronic Monitoring.
In R-2.2. Occupancies there will be continuous electronic supervision via CCTV system camera coverage and monitoring the following areas: corridors, storage rooms over 100 square feet, central kitchen, and main entryway of the facility.

…

435.3.3 Limitations seven or more clients. *Group R-4 occupancies where nonambulatory clients are housed above the first story and there is more than 3,000 square feet (279 m2) of floor area above the first story or housing not more than 16 clients above the first story shall be constructed of not less than one-hour fire-resistance-rated construction throughout.*

TABLE 504.3

TABLE 504.3 [a, i]
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION									
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
R-2[h]	NS [d, h]	UL	160	65	55	65	55	65	50	40
	S13R	60	60	60	55	60	55	60	50	40
	S (without area increase)	UL	180	85	75	85	75	85	70	60
	S (with area increase)	UL	160	65	55	65	55	65	60[i]	40
R-2.2	S (without area increase)	UL	180	85	75	85	75	85	70	60
	S (with area increase)	UL	160	65	55	65	55	65	60[i]	40

…

TABLE 504.4

TABLE 504.4 [a, b, n]

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
R-2 [h]	NS [d,h]	UL	11	4	4	4	4	4	3	2
	S13R	4	4	4					*3*	*2*
	S (*without area increase*)	UL	12	5	5	5	5	5	4	3
	S (with area increase)	*UL*	*11*	*4*	*4*	*4*	*4*	*4*	*4 [o]*	*2*
R-2.2 [h]	*S (without area increase)*	*UL*	*12*	*5*	*5*	*5*	*5*	*5*	*4*	*3*
	S (with area increase)	*UL*	*11*	*4*	*4*	*4*	*4*	*4*	*4 [o]*	*2*
R-2.1 [h]	*NS [d,h]*	*UL*	*6 [l]*	*3 [k]*	*NP*	*3 [k]*	*NP*	*NP*	*3 [k]*	*NP*
	S13R	*UL*	*4 [l]*	*3 [k]*	*NP*	*3 [k]*	*NP*	*NP*	*3 [k]*	*NP*
	S	*UL*	*6 [l]*	*3 [k]*	*NP*	*3 [k]*	*NP*	*NP*	*3 [k]*	*NP*
R-3, *R-3.1 [h]*	NS [d,h]	UL	11						3	3
	S13D	*4*	*4*	4	4	4	4	4	*3*	*3*
	S13R	4	4						~~4~~	~~4~~
	S	UL	12	5	5	5	5	5	4	4

...

TABLE 506.2

TABLE 506.2 [a, b, *i*]
ALLOWABLE AREA FACTOR (At = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
R-2 [h]	NS [d,h]	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM (*without height increase*)	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
	SM (with height increase)	*UL*	*UL*	*24,000*	*16,000*	*24,000*	*16,000*	*20,500*	*12,000*	*7,000*
R-2 Type VA construction [h]	*NS [d]*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	12,000	*NP*
	S13R									
	S1	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*48,000*	*NP*
	SM (without height increase)	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*36,000*	*NP*
	SM (with height increase)	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*NP*	*36,000 [i]*	*NP*
R-2.1 [h]	*NS [d]*	*UL*	*55,000*	*19,000*	*NP*	*16,500*	*NP*	*NP*	*~~160~~ 0,500*	*NP*
	S13R									
	S1	*UL*	*220,000*	*76,000*	*~~40,000~~ NP*	*66,000*	*~~40,000~~ NP*	*72,000*	*42,000*	*~~18,000~~ NP*
	SM (without height increase)	*UL*	*165,000*	*57,000*	*~~30,000~~ NP*	*49,500*	*~~30,000~~ NP*	*54,000*	*31,500*	*NP*
	SM (with height increase)	*UL*	*55,000*	*19,000*	*NP*	*16,500*	*NP*	*NP*	*~~16,500~~ 10,500*	*NP*
R-2.2 [h]	*S1*	*UL*	*UL*	*96,000*	*64,000*	*96,000*	*64,000*	*82,000*	*48,000*	*28,000*
	SM (without height increase)	*UL*	*UL*	*72,000*	*48,000*	*72,000*	*48,000*	*61,500*	*36,000*	*21,000*
	SM (with height increase)	*UL*	*UL*	*24,000*	*16,000*	*24,000*	*16,000*	*20,500*	*12,000*	*7,000*

…

508.2.4

508.2.4 Separation of occupancies. No separation is required between accessory occupancies and the main occupancy.

Exceptions:

1. Group H-2, H-3, H-4 and H-5 occupancies shall be separated from all other occupancies in accordance with Section 508.4.

2. Group I-1, R-1, R-2, *R-2.2,* and R-3 *dwelling units* and *sleeping units* shall be separated from other *dwelling* or *sleeping units* and from accessory occupancies contiguous to them in accordance with the requirements of Section 420.

…

508.3.3

508.3.3 Separation. No separation is required between nonseparated occupancies.

Exceptions:

1. Group H-2, H-3, H-4 and H-5 occupancies shall be separated from all other occupancies in accordance with Section 508.4.

2. Group I-1, R-1, R-2, *R-2.2,* and R-3 *dwelling units* and *sleeping units* shall be separated from other *dwelling* or *sleeping units* and from other occupancies contiguous to them in accordance with the requirements of Section 420.

…

510.5

510.5 Group R-1, R-2, and *R-2.2* buildings of Type IIIA construction.
The height limitation for buildings of Type IIIA construction in Groups R-1, R-2 and R-2.2 shall be increased to six stories and 75 feet (22 860 mm) where the first-floor assembly above the basement has a fire-resistance rating of not less than 3 hours and the floor area is subdivided by 2-hour fire resistance-rated fire walls into areas of not more than 3,000 square feet (279 m2).

…

510.6

510.6 Group R-1, R-2, *and R-2.2* buildings of Type IIA construction.
The height limitation for buildings of Type IIA construction in Groups R-1, ~~and~~ R-2, *and R-2.2* shall be increased to nine stories and 100 feet (30 480 mm) where the building is separated by not less than 50 feet (15 240 mm) from any other building on the lot and from lot lines, the exits are segregated in an area enclosed by a 2-hour fire-resistance-rated fire wall and the first floor assembly has a fire-resistance rating of not less than $1^{1/2}$ hours.

…

TABLE 706.4

TABLE 706.4
FIRE WALL FIRE-RESISTANCE RATINGS

GROUP	FIRE-RESISTANCE RATING
A, B, E, H-4, I, R-1, R-2, *R-2.1,* *R-2.2*, U, *L*	3[a]
F-1, H-3[b], H-5, M, S-1	3
H-1, H-2	4[b]
F-2, S-2, R-3, R-4	2

a. In Type II or V construction, walls shall be permitted to have a 2-hour fire-resistance rating.

b. For Group H-1, H-2 or H-3 buildings, also see Sections 415.7 and 415.8.

…

708.4.2

708.4.2 Fireblocks and draftstops in combustible construction.
In combustible construction where fire partitions do not extend to the underside of the floor or roof sheathing, deck or slab above, the space above and along the line of the fire partition shall be provided with one of the following:

1. Fireblocking up to the underside of the floor or roof sheathing, deck or slab above using materials complying with Section 718.2.1.
2. Draftstopping up to the underside of the floor or roof sheathing, deck or slab above using materials complying with Section 718.3.1 for floors or Section 718.4.1 for attics.

Exceptions:
1. Buildings equipped with an automatic sprinkler system installed throughout in accordance with Section 903.3.1.1, or in accordance with Section 903.3.1.2 provided that protection is provided in the space between the top of the fire partition and underside of the floor or roof sheathing, deck or slab above as required for systems complying with Section 903.3.1.1.

2. Where corridor walls provide a sleeping unit or dwelling unit separation, draftstopping shall only be required above one of the corridor walls.

3. In Group R-2 occupancies with fewer than four dwelling units, fireblocking and draftstopping shall not be required.

4. In Group R-2, *R-2.2* occupancies up to and including four stories in height in buildings not exceeding 60 feet (18 288 mm) in height above grade plane, the attic space shall be subdivided by draftstops into areas not exceeding 3,000 square feet (279 m2) or above every two dwelling units, whichever is smaller.

5. In Group R-3 occupancies with fewer than three dwelling units, fire-blocking and draftstopping shall not be required in floor assemblies.

…

3006.2

3006.2 Hoistway opening protection required. Elevator hoistway door openings shall be protected in accordance with Section 3006.3 where an elevator hoistway connects more than *two stories in Group A, E, H, I, L, R-1, R-2 and R-2.1, R-2.2 occupancies*, *high-rise buildings, and other applications listed in Section 1.11 regulated by the Office of The State Fire Marshal, and more than three stories for all other occupancies*, is required to be enclosed within a shaft enclosure in accordance with Section 712.1.1 and any of the following conditions apply:

1. The building is not protected throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. *Group A occupancies;*

3. *Group E occupancies;*

4. Group H occupancies;

5. Group I occupancies;

6. Group L occupancies;

7. Group R-1, R-2 and R-2.1, R-2.2 occupancies; and

8. High-rise buildings.

See Section 403.6 for additional requirements for high-rise buildings.

Exceptions:

1. Protection of elevator hoistway door openings is not required where the elevator serves only open parking garages in accordance with Section 406.5.

2. Protection of elevator hoistway door openings is not required at the level(s) of exit discharge, provided the level(s) of exit discharge is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.

3. Enclosed elevator lobbies and protection of elevator hoistway door openings are not required on levels where the elevator hoistway opens to the exterior.

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 7. Stairway Capacity

1005.3 Required capacity based on occupant load. The required capacity, in inches (mm), of the means of egress for any room, area, space or story shall be not less than that determined in accordance with Sections 1005.3.1 and 1005.3.2:

1005.3.1 Stairways. The capacity, in inches, of means of egress stairways shall be calculated by multiplying the occupant load served by such stairways by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.

Exceptions:
1. For other than Group H and I-2 occupancies, the capacity, in inches, of means of egress stairways shall be calculated by multiplying the occupant load served by such stairways by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.

2. Facilities with smoke-protected assembly seating shall be permitted to use the capacity factors in Table 1029.6.2 indicated for stepped aisles for exit access or exit stairways where the entire path for means of egress from the seating to the exit discharge is provided with a smoke control system complying with Section 909.

3. Facilities with open-air assembly seating shall be permitted to the capacity factors in Section 1029.6.3 indicated for stepped aisles for exit access or exit stairways where the entire path for means of egress from the seating to the exit discharge is open to the outdoors.

4.For Group H-1, H-2, H-3 and H-4 occupancies the total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by 0.7 inches (7.62 mm) per occupant.

~~*5. For rooms or spaces used for assembly purposes without smoke protection see Section 1029.*~~

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 8. Balcony and Elevated Walking Surfaces

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705.2.3.2 Vents. [SFM] *Vents required by Section 2304.12.2.6 in fire rated exterior balconies or elevated walkway surfaces shall be designed where the voids created at the intersection of the exterior curtain wall and the balcony floor are sealed with an approved material or system to retard the interior spread of flame, hot gases and products of combustion. Rated assemblies shall comply with Section 715. Ventilation openings shall comply with WUI requirements where applicable.*

…

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 9. Secondary Attachments to steel

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704.6.1 Secondary (non-structural) attachments to structural members. *Where primary and secondary structural steel members require fire protection, secondary (non-structural) tubular steel attachments to those structural members shall be protected with the same fire resistive rating as required for the structural member. The protection shall extend from the structural member a distance of not less than 12 inches. An open tubular attachment shall be filled with an equivalent fire protection method for a distance of 12-inch length from the structural member, or the entire length of the open tube, whichever is less.*

…

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 10. Elevators

…

3007.1

3007.1 General. Where required by Section 403.6.1, every floor *of the building* ~~above and including the lowest level of fire department vehicle access of the building~~ shall be served by fire service access elevators complying with Sections 3007.1 through 3007.9. Except as modified in this section, fire service access elevators shall be installed in accordance with this chapter and ~~ASME A17.1/CSA B44~~ *California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.

> ~~**Exception:**~~
> ~~Elevators that only service an open or enclosed parking garage and the lobby of the building shall not be required to serve as fire service access elevators.~~

…

3007.6.1

3007.6.1 Access to ~~interior exit stairway or ramp~~ *smoke proof enclosure*. The enclosed fire service access elevator lobby shall have direct access from the enclosed elevator lobby to ~~an~~ *a smoke proof* enclosure *complying with Section 909.20.* ~~for an interior exit stairway or ramp.~~

> **Exception:** Access to ~~an~~ *a smoke proof enclosure* ~~interior exit stairway or ramp~~ shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.2.2.1.

…

3008

SECTION 3008
OCCUPANT EVACUATION ELEVATORS

3008.1 General. Elevators used for occupant self-evacuation during fires shall comply with Sections 3008.1 through 3008.10.

~~**3008.1.1 Number of occupant evacuation elevators.** The number of elevators available for occupant evacuation shall be determined based on an egress analysis that addresses one of the following scenarios:~~

~~1. Full-building evacuation where the analysis demonstrates that the number of elevators provided for evacuation results in an evacuation time less than 1 hour.~~

~~2. Evacuation of the five consecutive floors with the highest cumulative occupant load where the analysis demonstrates that the number of elevators provided for evacuation results in an evacuation time less than 15 minutes. Not less than one elevator in each bank shall be designated for occupant evacuation. Not less than two shall be provided in each occupant evacuation elevator lobby where more than one elevator opens into the lobby. Signage shall be provided to denote which elevators are available for occupant evacuation.~~

3008.1.~~2~~1 Additional exit stairway. Where an additional means of egress is required in accordance with Section 403.5.2, an additional exit stairway shall not be required to be installed in buildings provided with occupant evacuation elevators complying with Section 3008.1.

3008.1.~~3~~2 Fire safety and evacuation plan. The building shall have an approved fire safety and evacuation plan in accordance with the applicable requirements of Section 404 of the ~~International~~ *California* Fire Code. The fire safety and evacuation plan shall incorporate specific procedures for the occupants using evacuation elevators.

3008.1.~~4~~3 Operation. The occupant evacuation elevators shall be used for occupant self-evacuation in accordance with the occupant evacuation operation requirements in ~~ASME A17.1/CSA B44~~ *California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders* and the building's fire safety and evacuation plan.

3008.2 Automatic sprinkler system. The building shall be equipped throughout with an approved, electrically supervised automatic sprinkler system in accordance with Section 903.3.1.1, except as otherwise permitted by Section 903.3.1.1.1 and as prohibited by Section 3008.2.1.

3008.2.1 Prohibited locations. Automatic sprinklers shall not be installed in elevator machine rooms, machinery spaces, control rooms, control spaces and elevator hoistways of occupant evacuation elevators *in accordance with this Section and 3005.4.1*.

3008.2.2 Sprinkler system monitoring. The automatic sprinkler system shall have a sprinkler control valve supervisory switch and water-flow-initiating device provided for each floor that is monitored by the building's fire alarm system.

3008.3 Water protection. Water from the operation of an automatic sprinkler system outside the enclosed lobby shall be prevented from infiltrating into the hoistway enclosure in accordance with an approved method.

3008.4 Shunt trip. Means for elevator shutdown in accordance with Section 3005.5 shall not be installed on elevator systems used for occupant evacuation elevators.

3008.5 Hoistway enclosure protection. Occupant evacuation elevator hoistways shall be located in shaft enclosures complying with Section 713.

3008.5.1 Structural integrity of hoistway enclosures. Occupant evacuation elevator hoistway enclosures shall comply with Sections 403.2.3.1 through 403.2.3.4.

3008.6 Occupant evacuation elevator lobby. Occupant evacuation elevators shall open into an enclosed elevator

lobby in accordance with Sections 3008.6.1 through 3008.6.6. Egress is permitted through the elevator lobby in accordance with Item 1 of Section 1016.2.

3008.6.1 Access to interior exit stairway or ramp. The occupant evacuation elevator lobby shall have direct access from the enclosed elevator lobby to an interior exit stairway or ramp.

Exceptions:

1. Access to an interior exit stairway or ramp shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section 716.2.2.1.

2. Elevators that only service an open parking garage and the lobby of the building shall not be required to provide direct access.

3008.6.2 Lobby enclosure. The occupant evacuation elevator lobby shall be enclosed with a smoke barrier having a fire-resistance rating of not less than 1 hour, except that lobby doorways shall comply with Section 3008.6.3.

Exception: Enclosed occupant evacuation elevator lobbies are not required at the levels of exit discharge.

3008.6.3 Lobby doorways. Other than the doors to the hoistway, elevator machine rooms, machinery spaces, control rooms and control spaces within the lobby enclosure smoke barrier, each doorway to an occupant evacuation elevator lobby shall be provided with a 3/4-hour fire door assembly complying with Section 716. The fire door assembly shall comply with the smoke and draft control assembly requirements of Section 716.2.2.1.1 and be tested in accordance with UL 1784 without an artificial bottom seal.

3008.6.3.1 Vision panel. A vision panel shall be installed in each fire door assembly protecting the lobby doorway. The vision panel shall consist of fire protection- rated glazing, shall comply with the requirements of Section 716 and shall be located to furnish clear vision of the occupant evacuation elevator lobby.

3008.6.3.2 Door closing. Each fire door assembly protecting the lobby doorway shall be automatic-closing upon receipt of any fire alarm signal from the emergency voice/alarm communication system serving the building.

3008.6.4 Lobby size. Each occupant evacuation elevator lobby shall have minimum floor area as follows:

1. The occupant evacuation elevator lobby floor area shall accommodate, at 3 square feet (0.28 m2) per person, not less than 25 percent of the occupant load of the floor area served by the lobby.

2. The occupant evacuation elevator lobby floor area shall accommodate one wheelchair space of 30 inches by 48 inches (760 mm by 1220 mm) for each 50 persons, or portion thereof, of the occupant load of the floor area served by the lobby.

Exception: The size of lobbies serving multiple banks of elevators shall have the minimum floor area approved on an individual basis and shall be consistent with the building's fire safety and evacuation plan.

3008.6.5 Signage. An approved sign indicating elevators are suitable for occupant self-evacuation shall be posted on all floors adjacent to each elevator call station serving occupant evacuation elevators.

3008.6.6 Two-way communication system. A two-way communication system shall be provided in each occupant evacuation elevator lobby for the purpose of initiating communication with the fire command center or an alternate location approved by the fire department. The two-way communication system shall be designed and installed in accordance with Sections 1009.8.1 and 1009.8.2.

3008.7 Elevator system monitoring. The occupant evacuation elevators shall be continuously monitored at the fire command center or a central control point approved by the fire department and arranged to display all of the following

information:

1. Floor location of each elevator car.

2. Direction of travel of each elevator car.

3. Status of each elevator car with respect to whether it is occupied.

4. Status of normal power to the elevator equipment, elevator machinery and electrical apparatus cooling equipment where provided, elevator machine room, control room and control space ventilation and cooling equipment.

5. Status of standby or emergency power system that provides backup power to the elevator equipment, elevator machinery and electrical cooling equipment where provided, elevator machine room, control room and control space ventilation and cooling equipment.

6. Activation of any fire alarm initiating device in any elevator lobby, elevator machine room, machine space containing a motor controller or electric driving machine, control space, control room or elevator hoistway.

3008.7.1 Elevator recall. The fire command center or an alternate location approved by the fire department shall be provided with the means to manually initiate a Phase I Emergency Recall of the occupant evacuation elevators in accordance with ~~ASME A17.1/CSA B44~~ *California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders*.

3008.8 Electrical power. The following features serving each occupant evacuation elevator shall be supplied by both normal power and Type 60/Class 2/Level 1 standby power:

1. Elevator equipment.

2. Ventilation and cooling equipment for elevator machine rooms, control rooms, machinery spaces and control spaces.

3. Elevator car lighting.

~~**3008.8.1 Determination of standby power load.** Standby power loads shall be based on the determination of the number of occupant evacuation elevators in Section 3008.1.1.~~

3008.8.2 Protection of wiring or cables. Wires or cables that are located outside of the elevator hoistway, machine room, control room and control space and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, ventilation and fire-detecting systems to occupant evacuation elevators shall be protected using one of the following methods:

1. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a fire-resistance rating of not less than 2 hours.

2. Electrical circuit protective systems shall have a fire-resistance rating of not less than 2 hours. Electrical circuit protective systems shall be installed in accordance with their listing requirements.

3. Construction having a fire-resistance rating of not less than 2 hours.

Exception: Wiring and cables to control signals are not required to be protected provided that wiring and cables do not serve Phase II emergency in-car operation.

3008.9 Emergency voice/alarm communication system. The building shall be provided with an emergency voice/ alarm communication system. The emergency voice/alarm communication system shall be accessible to the fire department. The system shall be provided in accordance with Section 907.5.2.2.

3008.9.1 Notification appliances. Not fewer than one audible and one visible notification appliance shall be installed within each occupant evacuation elevator lobby.

3008.10 Hazardous material areas. Building areas shall not contain hazardous materials exceeding the maximum

allowable quantities per control area as addressed in Section 414.2.

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Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 11. Carbon Monoxide

915.1 General. Carbon monoxide detection shall be installed in new buildings in accordance with Sections 915.1.1 through *915.7*. Carbon monoxide detection shall be installed in existing buildings in accordance with *this section* *and* Chapter 11 of the ~~International~~ *California* Fire Code.

Pursuant to Health and Safety Code Section 17926, carbon monoxide detection shall be installed in all existing Group R buildings as required in this section.

915.2.3 Group E occupancies. Carbon monoxide detectors shall be installed in classrooms in Group E occupancies *where classrooms include any of the conditions identified in Sections 915.1.2 through 915.1.6*. Carbon monoxide alarm signals shall be automatically transmitted to an on-site location that is staffed by school personnel.

> **Exception**: Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an occupant load of 30 or less.

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915.4.2 Listings. Residential Carbon monoxide alarms shall be listed in accordance with UL 2034.

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Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 12. Class A Wiring in High-rise buildings

907.6.1.1
…

907.6.1.1 High-rise Buildings. *Wiring for fire alarm signaling line circuits, initiating circuits, and notification circuits in high-rise buildings shall be in accordance with the following:*

1. *Fire alarm riser circuits shall be Class A or Class X in accordance with NFPA 72.*

~~Exception:~~ *~~Initiating circuits which serve only a single initiating device.~~*

2. Enclosed in continuous metallic raceways or raceways encased in not less than 2 inches (51mm) of concrete in accordance with the California Electrical Code.

Exception: *Metallic cable (MC) shall be permitted for fire alarm notification circuits where continuous metallic raceways are not required for survivability.*

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 13. Fire Command Center

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911.1.2 Separation. The fire command center shall be separated from the remainder of the building by not less than a ~~1~~ *2*-hour fire barrier constructed in accordance with Section 707 or horizontal assembly constructed in accordance with Section 711, or both.

Notation
Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 14. Assembly occupant loads 100-300

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~~***1029.3.1 Occupant loads between 100 and 300.*** *Group A occupancies or assembly occupancies accessory to Group E occupancies that have an occupant load of 100 to 300, not less than one of the required means of egress shall exit through one of the following:~~

~~*1. Directly to an exit*~~
~~*2. Egress through a lobby, that is not used to access the other required exit*~~
~~*3. to a one-hour rated corridor to an exit*~~
~~*4. continuous through a one-hour rated lobby to an exit.*~~

~~*Not less than one exit shall discharge on a street or an unoccupied space of not less than 20 feet (6096 mm) in capacity that adjoins a street or public way.*~~

Notation

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 13210, 13211, 17921, 18949.2, 25500 through 25545, Government Code Section 51189, Public Education Code 17074.50
Reference(s): Health and Safety Code Sections 13143, 13211, 18949.2, 25500 through 25545, Government Code Sections 51176, 51177, 51178 and 51179, Public Resources Code Sections 4201 through 4204.

Item 15. Chapter 35 - NFPA 13 Waterflow test

. . .

Revise Section 23.2.1.1 as follows:

23.2.1.1* Where a waterflow test is used for the purposes of system design, the test shall be conducted no more than ~~12~~ *6* months prior to working plan submittal unless otherwise approved by the authority having jurisdiction.